BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

In the Matter of	DOCKET NO. 990649-TP
INVESTIGATION INTO PRICING OF UNBUNDLED NETWORK ELEMENTS.	

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VOLUME 14

Pages 2047 through 2268

PROCEEDINGS: HEARING

BEFORE: CHAIRMAN J. TERRY DEASON
COMMISSIONER E. LEON JACOBS, JR.
COMMISSIONER LILA A. JABER

DATE: Thursday, September 21, 2000

TIME: Commenced at 8:15 a.m.

PLACE: Betty Easley Conference Center
Room 148
4075 Esplanade Way
Tallahassee, Florida

REPORTED BY: KORETTA E. STANFORD, RPR
Official Commission Reporter
Division of Records & Reporting

APPEARANCES: (AS HERETOFORE NOTED.)

I N D E X

WITNESSES

I N D E X (Continued)

EXHIBITS

PROCEEDINGS

(Transcript continues in sequence from Volume 13.)

CHAIRMAN DEASON: Call the hearing to order.

I have in front of me a list of five items, which are requested to be added to the Official Recognition List. Do all the parties have this? I think, it's filed by BlueStar.

MS. BOONE: We've just handed them out, Chairman.

CHAIRMAN DEASON: Okay. Well, I'll just give everybody a chance to review that. Just remind me, we'll address it a little bit later today. I also have an exhibit. We'll address that a little bit later, too.

I believe, when we recessed for the evening, Mr. Milner was on the stand and, Mr. Lamoureux, you were inquiring.

MR. LAMOUREUX: Yes.

CHAIRMAN DEASON: Please proceed.

MR. LAMOUREUX: I will continue my inquiry.

KEITH MILNER

continues his testimony under oath from Volume 13.

CROSS EXAMINATION

BY MR. LAMOUREUX:

Q Good morning, Mr. Milner.

A Good morning, sir.

Q Milner, I'll get it right this time, I promise.

A Thank you.

Q Several times yesterday afternoon, we talked about the issue of network security and, in particular, reading through your testimony, you have two issues that appears to me that you mean when you say network security; one is possible service disruption caused by ALEC technicians, and the other is the issue of accurate recordkeeping and billing; is that right?

A Yes, that's right.

Q Okay. And as near as I can tell, there are no other network security issues that you've raised with respect to direct access; is that right?

A Yes, you're right.

Q With respect to the first one, the possible service disruption caused by ALEC technicians, I think, you agreed with me yesterday that there's no evidence that ALEC technicians are any less competent or less capable than BellSouth technicians, right?

A No.

Q And you have no evidence that ALEC technicians have any greater probability of propensity to cause service disruptions than BellSouth technicians, do you?

A No, I don't know the training practices of ALECs. I can't comment on that.

Q With respect to my company, in particular, AT&T, do you expect that the training practices might be fairly similar?

A In many ways, they probably are.

Q Probably still some training guides in the BellSouth system that still have the logo of AT&T on them somewhere?

A It's possible.

Q Okay. You're not aware of any actual documents or evidence, documentary evidence, that allowing direct access to other parties increases the probability of network service issues, are you?

A I'm not sure what you mean by documentary evidence. We have, unfortunately, encountered a number of cases in the southeast where ALECs have caused problems by their direct access unauthorized by BellSouth to our facility. So, I'm not sure if that's what you mean by documentary evidence, but I can name you a number of cases where ALECs have decided for themselves to have direct access to our facilities.

In some cases it's called service outages of other customers. In other cases, still, it's caused due dates to be missed, because facilities that we thought were available turned out not to be available.

Q What I mean, in particular, is you have no

studies or reports or anything of that nature that would show that by allowing direct access that would somehow increase probability of service disruptions?

A No scientific, but there's quite a lot of incidents that we've come across where that has been the case.

Q And, in fact, BellSouth technicians cause service disruptions when they directly access components in BellSouth network, correct?

A Well, as I mentioned yesterday, humans are imperfect by nature and cause problems. Our proposal, we think, mitigates that, makes it more clear who's working on what part of the network and minimizes those unfortunate incidents.

Q Now, would you agree with me that everytime you introduce another point of connection in a network, that introduces another potential point of failure in the network?

A Yes. The benefit of having a potential additional point in failure needs to be balanced with what the result of using that device is, and that's something we've looked at and concluded that that's an acceptable risk, given the fact that it does enhance the reliability of the network through the type of access that we have proposed.

Q I'm not sure if we've mentioned it or not, but did you testify on the issue of network terminating wire in the MediaOne arbitration in Georgia?

A Yes, I did.

Q Are you familiar with the decision that resulted from that arbitration in Georgia?

A Yes, sir.

Q Okay. I'd like to hand out a copy of that order.

MR. LAMOUREUX: I can either ask to have this marked as an exhibit or just add it to the Official Recognition List. It really doesn't matter to me.

CHAIRMAN DEASON: It's not presently on the list?

MR. LAMOUREUX: I don't think so. But frankly, I haven't checked everything.

CHAIRMAN DEASON: Is there any objection to adding this order to the Recognition List? BellSouth, no objection?

MS. WHITE: No objection.

CHAIRMAN DEASON: I'll just add this to the list.

BY MR. LAMOUREUX:

Q In particular, I want to begin by looking at page 6 of this order. Do you have a copy of the order

there, Mr. Milner?

A Yes, I do, thank you.

Q The issue of network security was also raised in that arbitration; was it not?

A Yes, it was.

Q And if you'll turn with me to page 6 in the first paragraph, would you agree with me, in its order, the Georgia Commission agreed that a procedure could be put in place by the Commission to require notice to a carrier regarding any change made by any LEC or CLEC to the carrier's customer service?

A Yes.

Q And it directed BellSouth and MediaOne to negotiate reasonable procedures for notification of changes of service?

A That's correct, which we have done.

Q And BellSouth and MediaOne have done that?

A Yes.

Q Have they submitted that as part of an interconnection agreement to the Georgia Commission?

A I believe so. I'm not sure of the final status of that. My involvement in that process ended some time ago, but I'm just not clear as to whether that's been submitted or not.

Q But MediaOne and BellSouth have completed their

discussions and finalized a process for notification; is that correct?

A Yes.

Q Okay.

A Yes.

Q In its order, in this proceeding, the Georgia Commission adopted MediaOne's proposal that CLECs gain access to network terminating wire by means of a minimum point of entry; is that correct?

A That's pretty close. I think that the Commission adopted parts of both of our proposals. It adopted the use of an access terminal as a reasonable means of an ALEC getting access to those facilities.

It adopted MediaOne's proposal that MediaOne, itself, could make cross connections to and from that access terminal, rather than having BellSouth's technicians present at the time. So, it was really a blend of both our positions, I believe.

Q Let's flesh that out a little bit. If you look with me on page 5, the second full paragraph -- well, let me back up.

Would you agree with me that in the proceeding, MediaOne proposed access by means of a minimum point of entry?

A Yes.

Q Okay. If you look with me on page 5 of this order, that second full paragraph, doesn't it say that the Commission finds that interconnection at the MPOE is technically feasible and that the MPOE is an appropriate point of interconnection in MDUs?

A It says that. First of all, BellSouth had not asserted that interconnection and a minimum point of entry or MPOE is not technically feasible. We have a number of situations where that is done.

Minimum point of entry usually refers to a demarcation point in the basement of a multi-storied building or perhaps at the edge of a property in a garden style or campus-style property. So, really we were not arguing that point.

MediaOne had argued that the appropriate demarcation point in multi-tenant environments was always at this MPOE. We argued that part 68 of the FCC's rules allowed either that or demarcation points at the individual apartments or office suites.

Q And was it MediaOne's proposal that each LEC provide its own cross-connect facility in the wiring closet to connect from the building back to its network and that each LEC would connect its customers within the MDU by means of an access cross connect?

A That's correct. And that access cross connect

is what I'm referring to as the access terminal.

Q And, in fact, when MediaOne proposed an access cross connect that the Georgia Commission adopted, MediaOne was not proposing an access cross connect in between the garden terminal and the ALEC terminal, did it?

A Well, yes, I believe, it did. My understanding from Mr. Beveridge's testimony was that we would install just that device. In fact, I recall his pictures that showed what he called the BellSouth's CSX and the ALEC's CSX in proximity to that device.

Q Well, I'm confused, Mr. Milner. If MediaOne was proposing somehow this intermediary access terminal, why is it that in this order the Georgia Commission describes BellSouth proposal as proposing an access terminal in between the BellSouth garden terminal and the ALEC terminal?

A Because that's what we were proposing.

Q So, it's your testimony that MediaOne and BellSouth were proposing the exact same means of access?

A No, sir. We're talking about the devices that would be used. And, I think, the Commission agreed that the use of the access terminal or access CSX, in their vocabulary, was appropriate. The dispute between BellSouth and MediaOne was who would make cross connections at that access terminal.

Q In fact, Mr. Milner, wasn't MediaOne's proposal of an access terminal referring to access at the BellSouth garden terminal and wiring closet?

A No, it was in proximity to that. Again, the diagrams that Mr. Beveridge used clearly showed a separate access or separate terminal that he labeled the BellSouth CSX or cross-connect terminal.

Q Mr. Milner, didn't the Commission reject BellSouth's proposed means of access in this arbitration proceeding?

A In Georgia?

Q Yes.

A In part, yes.

Q And wasn't BellSouth's proposal to install an access terminal in between the garden terminal or wiring closet and --

A That was part of our proposal. And also, the other part of our proposal was about who would make the cross connections in that device.

Q Do you agree with me that the Georgia Commission ordered that to the extent there is not currently a single point of interconnection that can be feasibly accessed by MediaOne, BellSouth must construct a single point of interconnection that will be fully accessible and suitable for use by multiple carriers?

A Yes, sir, and that's what we're willing to do. The sentence you just read, I think, explains exactly what I'm talking about here. It said we should construct such a device. If MediaOne meant the BellSouth device, it's already there. So, I don't think that's what the Georgia Commission was referring to.

It said that we should construct a single point of interconnection, if there was not one there. There is a BellSouth terminal there. So, that's not what they were referring to.

Q The Commission did not say multiple CLECs, it said multiple carriers, correct?

A Yes. And they also declined to name BellSouth as being one of those multiple carriers.

Q Wouldn't you agree with me that the Georgia Commission described the proposal of gaining access to the access terminal in terms of each LEC and not each CLEC?

A That's the language they used, yes.

Q Do you agree with me that the FCC has a, sort of, best in class presumption, that if CLECs are able to gain access in a particular manner in one state, that creates a presumption, technical feasibility, in other states for that means of access?

A Well, two parts. I agree with you that it -- the fact that a Commission somewhere has adopted a form of

access, as technically feasible, sets up a rebuttable presumption in another state, I don't think that necessarily denotes a given arrangement as being best in class.

It just says that it's been found technically feasible. The burden is on the incumbent to prove that that's not technically feasible in another state, but I don't think that means that that's necessarily the best way to do things.

Q Okay. Without the best in class designation, then, you agree that if you look around the country and you find that another state has allowed a particular means of interconnection that creates a presumption in another state, that that means it's technically feasible?

A That's my understanding, yes.

Q Okay. Has BellSouth looked around to see if any other CLECs allow -- I'm sorry, any other ILECs allow direct access for means of gaining access to NTW and INC to serve multiple dwelling units?

A I have not. I am aware of the practices of some of the other companies. I'm not aware of all their practices.

Q Well, I guess, before BellSouth decided that it would propose to require ALECs to go through this intermediary access terminal or access panel, did

BellSouth look to see if any other ILECs allow direct access?

A No. In fact, at the time that we first proposed this arrangement, back in 1996, no other incumbent that we were aware of was doing subloop unbundling. So, we were pretty much on the leading edge of this type of access.

Q Are you aware that AT&T is able to gain access to multiple dwelling units in SBC territory by means of direct access to terminals and panels in multi-dwelling units?

A Yes. And I'm also aware that in SBC, for the most part, those properties have already established this minimum point of entry; that is, the demarcation point is at the edge of the property, not at the individual units. So, it's simply not an issue for SBC.

The wire that we're talking about is simply not their property. Instead, it's the property -- it's the assets of the property owner. So, I'm not surprised that SBC would be indifferent to how an ALEC uses the property owner's wire.

Q But at least in that situation, whether the owner of the wire is the property owner or the ILEC, at least an owner of the wire in SBC territory, has allowed direct access at that minimum point of entry; is that correct?

A Well, that's correct. And the same holds true here. What we're talking about in the SBC example is that what we're calling network terminating wire and intrabuilding network cable is not SBC's property, it's been provided by the building owner, so it's inside wire. Here in Florida, we don't make any claims over inside wire; that is, the customer's wire on the far side of the demarcation point, so those situations are similar.

Q Back in the original round of arbitrations, seems like about a million years ago but, I guess, about four years ago, BellSouth initially refused CLECs to gain direct access to NIDs based on similar network security concerns, didn't they?

A No. BellSouth's position was that an ALEC could not remove the BellSouth loop from the network interface device or NID in order to terminate the ALEC's loop to that same NID, because to do so would create an electrical hazard by having the BellSouth loop in an ungrounded fashion -- state, which could cause electrocution, fire hazard, things of that nature. So, it's quite a bit different situation there.

We were not opposed and are not opposed to allowing use of the NID in two or three ways. The ALEC can cross connect its NID to BellSouth's NID. If there's spare terminals in the NID, the BellSouth NID, that is,

the ALEC can terminate its loop. Our concern was leaving the BellSouth loop just dangling and, thereby, creating a safety and a fire hazard.

Q At least some Commissions allowed CLECs to gain access to the BellSouth NID and disconnect the loop without having to go to a NID-to-NID connection in those arbitrations, didn't they?

A Yes, they did. And they also said in their order that the ALEC would indemnify the parties for any bad things that happened, that they would assume any consequence for having left the BellSouth loop in an ungrounded state.

Q And they required ALECs to file or follow technical and safety codes and requirements in order to go through that process, correct?

A That's true. But in actuality, there have been, you know, almost no cases where ALECs have decided to use BellSouth's NID. Instead, they've placed their own loops up to a house or to a business, and they've placed their own NID. So, it's a lot of discussion and a lot of paper and a lot of orders that, for all practical matter, there's been almost no use of the BellSouth NID by ALECs.

Q Are you aware of any ALECs that have gained direct access to the NIDs in the same process?

A There are some, yes, but very, very few.

Q Aware of any incidents of ALECs electrocuting their technicians or customers or any other network or service problems by doing that?

A Thankfully, no.

Q Are you aware that in the BellSouth region there's one or more complexes of multi-dwelling units in which MediaOne actually controls all the wiring for those multi-dwelling units and at which BellSouth has direct access to gain access to the network terminating wire or INC in those facilities?

A I'm not aware of those, no.

Q Are you aware of any arrangement that MediaOne and BellSouth have discussed in putting together their interconnection agreement for Georgia in which BellSouth would gain direct access to that network terminating wire and INC in facilities where MediaOne controls the wiring?

A That may be. I was not part of those discussions. I don't know.

Q Would you agree with me that in order to succeed on a technical infeasibility argument relating to network securities, specifically, BellSouth has required under the FCC's original local competition order to show specific significant and demonstrable network reliability issues?

A Yes, I agree, that's their language.

Q Okay. Other than the assertion in your

testimony about the prospect of confusing facility records and facility assignments and who owns what, there's no other evidence of network reliability issues in your testimony; is there?

A Not in my testimony. But as I mentioned earlier, BellSouth has a number of examples where ALECs have, without our knowledge, used our property in this direct access manner and have caused problems. I'll not, you know, name those ALECs. I'd be glad to provide that information to the Commission, if they'd like.

But there are a number of incidents where they have taken our customers out of service, where they have caused missed due dates, things of that nature. So, I'd call that demonstrable evidence that there have been bad things that have happened because of direct access.

CHAIRMAN DEASON: Excuse me. When BellSouth discovered those situations, what action did BellSouth take?

THE WITNESS: Well, we wrote to them, informed them they were using our property without our consent, without our knowledge, that they should negotiate an interconnection agreement with us, if they wanted to continue to use that, but that they had to make some other arrangements.

Some ALECs have complied with that, others have

not. We probably will wind up going to court with at least one to get it to refrain from using our property without our consent and without paying it.

CHAIRMAN DEASON: This was another state other than Florida?

THE WITNESS: This was another state, yes, sir, but it's happened in several states now.

CHAIRMAN DEASON: I assume that those other ALECs are -- some happen to have some type of a certificate to operate within those states?

THE WITNESS: Yes, they're all certificated as ALECs. Now, we had a situation here in Florida with a company who, at the time, was not certificated as an ALEC who, likewise, used our facilities without our knowledge, took a number of our customers out of service.

And when we sent our technicians to the buildings in Miami to restore that service, determined, you know, what the name of the company was, that company has since become certificated. And we're working through this with them to see if we can't get them to agree to a proper means of their using our facilities.

BY MR. LAMOUREUX:

Q Until you testified yesterday and today, you had never raised any evidence of that as a support for any network reliability issue to deny MediaOne or AT&T direct

access to your terminals, did you?

A Well, I didn't name specific ALECs. I don't think that's proper for me to do in a testimony that's public record, but these are exactly the kinds of issues that I talked about in my testimony. These are exactly the types of problems I said would happen, and they are happening.

Q And those problems are happening in the absence of procedures, documents, setting forth a procedure by which an ALEC, if it gained direct access, just how it would do that, how it would notify BellSouth, that sort of thing, correct?

A No, sir. In fact, in one case, the ALEC and BellSouth arbitrated this very issue. BellSouth prevailed, and they still continue with this practice.

Q Were there procedures -- go ahead.

A So, we have well-documented procedures. If you want access to our facilities, we're happy to sell them to you, but here's an ALEC that knows procedures and chooses not to follow them.

CHAIRMAN DEASON: Let me ask the question, in a situation where there is an intermediary access point, and the ALEC has access to that, what prevents them -- if they are inclined or predisposed to make unauthorized connections, what prevents them from making an

unauthorized connection within the intermediary access point?

THE WITNESS: Well, I mean, ultimately nothing. If they're intent on bad behavior, they're going to find a way to do that. But if they do so, it's a lot easier for us to detect the manner in which they've circumvented the access terminal.

For example, even though the access terminal's there, if they've got bad intent, then they'll just connect their facilities directly to the BellSouth terminal or to the BellSouth cable so they're there without even using that access terminal. I think that's entirely wrong on their part.

CHAIRMAN DEASON: Well, now, how do they do that if you have security over your access terminal?

THE WITNESS: Well, they --

CHAIRMAN DEASON: I assume, it's locked.

THE WITNESS: Well, no. In a lot of cases the room that it's in is locked, but there is not a lock and cover over the terminal itself. If they're outdoor terminals, then they are generally locked. But inside a basement, for example, there's usually not a locked cover over it. Even if there were a cover, they could remove that cover and still, you know, do bad things, if they had such intent. So, nothing is foolproof.

CHAIRMAN DEASON: Locks only keep out honest people.

THE WITNESS: Pardon me?

CHAIRMAN DEASON: The locks only keep out honest people.

THE WITNESS: I agree with you. So, yes, there are ways to circumvent any physical, you know, deterrents that we might come up with, but the use of the access terminal makes it very clear who is using what plant, if they're doing so in a lawful manner.

COMMISSIONER JACOBS: I've seen a Georgia order that the Commission required MediaOne to assume liability for any action that it may have taken that would cause harm to your network.

THE WITNESS: Yes, sir.

COMMISSIONER JACOBS: Is that an adequate safeguard?

THE WITNESS: It is in the case that the Georgia Commission was looking at. The drawing's still not up there, but if you recall yesterday, we discussed the so-called garden apartment complex. That was the case that the Georgia Commission, and which this Commission earlier looked at, was the case only where this wire that we call network terminating wire was going to be used.

So, yes, the Georgia Commission's order, we were

able to comport with. We worked through some issues with MediaOne on how they would report to us and how we would wire that terminal to make sure that we still maintain a pretty good degree of security.

That situation is quite a bit different from this other case we talked about yesterday in a high-rise building. At that garden terminal, there may be only 25 or 50 pairs of wire. So, even if bad things happen, it's relatively narrow in scope.

Go into a high-rise building, there may be several thousand pairs of wire. And the possibility for mischief is, obviously, quite a bit more pronounced as well as the fact that in the garden apartment complex, the inventory records; that is, what's working and what's spare, is maintained in paper records at the terminal.

Whereas, in these high-rise apartments, there are no paper records. They're all mechanized in a computer system somewhere. So, at the garden terminal, you can kind of figure out what's spare and what's not by looking at these paper records.

If you walk into the basement of the high-rise, there's nothing there to tell you what's in service, who's using what. It's all in a computer system. And even our own technicians don't have access to the records, if they're out there.

If they get out there and they find out that one of these pairs is broken or used or defective or whatever, they don't just rummage through there and find another one, they call the assignment center, the assignment center goes into the computer base, finds one and tells them which one to use.

COMMISSIONER JACOBS: That facility -- that option wouldn't be available, I assume, to ALECs to be able to call and get that reference point as well?

THE WITNESS: No. The interaction between computer systems would be just enormous to be able to do that. The problem is this: These assignment systems interact with our computers, which interact with a number of different computers within BellSouth.

ALECs have their own computer systems and then you have to figure out how to integrate those computer systems with all of those parts, you know, of BellSouth's. If there are 3 or 400 ALECs, then each of them have made different choices as to what sort of hardware they want to use and software and what command language and formats, and all that, you know, sort of thing that would have to interoperate with BellSouth's system. I just don't see that as being possible.

COMMISSIONER JACOBS: And that information is proprietary, the inventory information on the building, is

that proprietary?

THE WITNESS: Well, it's proprietary in the sense that it's got customer names in it. In other words, if you knew all of that, you'd know all of BellSouth's customers by name and service address. BellSouth makes available some of that information we talked about yesterday, makes available to ALECs for loop makeup activity. It's a system we call LFACS, L-F-A-C-S. So, that keeps records of what's in service, what's not in service, what's broken or defective.

So, if you just go into one of these multi-story buildings and just start choosing pairs at random, you do that at the peril of the computer system not knowing about that and choosing one of those pairs that's already been taken and assigning a service order to it.

And that's what happened to us in another state was that an ALEC took some of those pairs, our service order process didn't know that, could not have known that, assigned those pairs. So, when our technician got out there, we couldn't work the service order. The customer was pretty unhappy that we missed the due date.

COMMISSIONER JACOBS: Thank you.

BY MR. LAMOUREUX:

Q Mr. Milner, what you said is that in a high-rise situation, because the pairs aren't marked with little

colored pieces of paper, what happens is a technician gets out there, can't find the right pair, doesn't know, calls, makes a phone call, and the computer system generates, for him, that information. In a high-level sense, generally, that's right?

A Yes.

Q Any reason ALEC technicians couldn't make a similar phone call to those same people and get that same information?

A Yeah, there are a number of good reasons. First of all, those phone calls back to our assignment center from BellSouth's technicians only take -- that only happens when there's a problem with the order. The overwhelming majority of orders are processed without those phone calls.

ALECs, on the other hand, would have to call our assignment center each and every time. So, they don't know what's available, what's spare, what's defective, what's working. So, number one, there'd just be a tremendous volume of calls into the assignment center, because the ALECs would have to call each time.

That requires staffing at BellSouth's end, you know, all of those types of things. There's also the problem of trying to keep synchronized the ALECs own back-office systems with BellSouth's. And this is what

Commissioner Jacobs and I were talking about just a moment ago. That would be just an absolutely monumental task of trying to integrated several hundred different computer systems, all of different vintage, made up of different components, running different software. That would be immensely difficult.

CHAIRMAN DEASON: Let me ask the question, why is it not feasible for the ALEC service technician to inquire before he or she makes the trip to the high-rise, to find out what pairs are available and they go and they use those pairs, and then only if there's some problem with those particular pairs do they have to call your service center to make alternative arrangements?

THE WITNESS: Well, that's a good question. In essence, that is our proposal. We're offering to prewire those pairs to make them available to the ALECs. So, if the ALEC says in the high-rise situation I want 50 pairs up to the 14th floor, you know, we'll provide those, and we'll tell them, you know, which ones they are and tag them on the access terminal for their use. So, that's really what we're proposing is order them, we'll provide them to you, use them when you want to.

CHAIRMAN DEASON: My question is why can't they just get that information from you all and they go out, physically, and do that without having to have an

intermediary access point, without you having to actually identify ahead of time those spares and run them over to some other intermediary point? Why can't they just know which spare -- which lines or pairs are supposedly available and just go out and make those connections off your access point?

THE WITNESS: Well, we can do that. And again, that -- you know, making the information available, we can work through that. That does not, in my opinion, solve the reliability problem of not having the access terminal.

So, I'm not -- you know, we could do what you're suggesting; that is, give them a complement of pairs and tell them ahead of time which ones they could and should use. But I don't think that that ought to be done without this intermediary device, but that does address one part of the problem.

BY MR. LAMOUREUX:

Q Mr. Milner, your proposal is that for each time an ALEC orders INC pairs, the BellSouth technician is going to go -- assuming that an ALEC doesn't prewire the whole panel at the beginning, each time the BellSouth technician is going to have to go out and wire up the pairs to that intermediary access terminal, correct?

A That's right, based on the ALEC's business decision as to whether to wire a few or wire a lot,

BellSouth is going to dispatch more or less, but that's the ALEC's decision, not BellSouth's.

Q So, in terms of volume of calls, whether it's the ALEC or the BellSouth technician calling, the volume of calls is going to have to be exactly the same, because either the BellSouth technician is going to have to call to find out which pairs are available, which are spare or the ALEC technician is going to call and find out which pairs are available and which are spare. There's no difference in terms of volume of calls, is there?

A Well, the volume of calls we're talking about, in BellSouth's case, are exception calls where the assigned pair was not available for some reason. What we were talking about a moment ago was the notion that an ALEC would just go out to the site and then would call the assignment center and say, "I've got a service work order. Which pairs can I use?" And that's why I said that that would happen each and every time, because the ALEC does not, under that notion, have that knowledge before arriving at the building.

So, 100% of the ALEC's trip to the building would require a call to BellSouth's assignment center. BellSouth's technicians would only have to call the assignment center when the assigned pairs were not available.

Q Well, if the pairs aren't marked in the building, neither the ALEC technician or the BellSouth technician, by looking at those pairs, knows anything about the pairs, right?

A The technician does not, but BellSouth's back-office systems that create the order from which the technicians work does know that. It's sort of -- the analog would be sort of like the film we watched yesterday about load coil removal.

The technicians are doing the work, they get a work order that says remove this number of load coils, they didn't make the decision about why or how many or anything like that, they executed the order. That's what BellSouth's technicians would do.

The order itself has resulted intelligence in those databases and keeping that database accurate is in the public interest, because if it's not accurate, then, customers orders are going to be delayed, their services are going to be -- they're going to lose service because of disruptions. So, bad things are going to happen, if those inventories are not properly maintained.

Q But when a technician has to go wire up access for a CLEC in a high-rise building, whether it's the ALEC technician or the BellSouth technician, the same information is going to have to be conveyed to that

technician from those BellSouth systems about which pairs to use to do that wiring, correct?

A No, not under BellSouth's proposal. Under BellSouth's proposal those systems would determine what facilities are spare, and in response to an ALEC's order, would provide those over to that terminal. Then, the information would be provided to the ALEC as to the fact that the work would be done. The ALEC can use those wires, at any time that it chooses to, whether on that day or any subsequent day.

Q But the systems have to tell the technicians which pairs to wire up to the access terminal, correct?

A Well, that's right, yes.

Q And that same information could be conveyed directly to the ALEC technician in a direct access situation, couldn't it?

A No, because there's not a mechanized means for passing that information. That's what I talked about before about computer system integration. There is no integration of BellSouth's LFACS with an ALEC's whatever you call your back-office systems.

That would have to be developed. In fact, it would have to be developed several hundred times, if you went to that level of integration, because all ALECs don't use the same computer systems. They don't use the same

hardware, they don't run the same software, their command structures are different, the codes that they use to mean different things are different. They're not industry standards for how you run these back-office systems. So, it would be monumentally difficult.

Q When ALECs buy loops, there is a synchronization between the BellSouth facility assignment system and the CLEC facility assignment system to tell those systems who owns that loop; is there not?

A No. There's no direct synchronization between LFACS and any ALEC back-office system. The ALEC itself builds its own assignment system, its own inventory system, on its own. It uses the information that BellSouth provides it, but there's no direct interaction between an ALEC's back-office systems and LFACS.

Instead, there are these so-called interfaces, L-E-N-S, LENS, TAG, T-A-G, electronic data interchange. There are a number of different interfaces for how those messages will be sent back and forth across these interfaces, but that's not what I'm talking about. That's entirely different from integrating two different back-office systems together, which is what, if I understand your proposal, what you're suggesting.

Q I'm sorry, I misused the word synchronization. When ALECs buy loops in BellSouth's facility

assignment system and in a CLEC facility assignment system, notations are made in those assignment systems to tell them the ALEC now has the loop, not BellSouth, correct?

A That's right. BellSouth maintains its data base, the ALEC maintains its database.

Q And didn't you testify in North Carolina that BellSouth recently did an audit of its own database and determined that it was 95% accurate?

A Well, no, I didn't say that. The topic was very narrow, and the topic was about some cables that run between an ALEC's collocation arrangement and BellSouth's main distributing frame referred to as connecting facilities.

Those would just be between AT&T and BellSouth as to whether AT&T's records were correct or BellSouth's records were correct. And we found that our records were, in fact, about 95% correct.

On the other hand, we found that AT&T's records were about 85% flawed. So, that was the case we were talking about, not the situation we're describing here.

Q And what they were correct in is in terms of loops having been assigned or reassigned or disconnected between BellSouth and AT&T?

A No, sir. We weren't talking about loops, we

were talking about connecting facilities, these little cables that run from your collocation arrangement to our main distributing frames.

Q Okay. At page 2 of your rebuttal --

A Okay.

Q On page 2, you say that ALECs are the cost causers of access terminals. Wouldn't you agree, however, that it is BellSouth that is insisting that ALECs gain access to network terminating wire and INC by means of access terminals?

A Yes. And BellSouth is requesting that in order to maintain the existing level of reliability and security in the network.

Q ALECs are not requesting these access terminals, right?

A No. ALECs are requesting that they have direct access, which would cost them less money, but pose severe risk to the network.

Q Do you agree that if the Commission decides that BellSouth is the cost causer of the access terminals, the cost of those terminals should be removed from the rates for network terminating wire and INC?

A Well, I'm not sure if you're asking me for what our legal obligation would be or not, but if the Commission found that BellSouth was the cost causer and

the benefit of those accrued only to BellSouth, then perhaps so.

Now, the FCC's rules, as I recall, do allow an incumbent, like BellSouth, to recover its reasonable cost for security devices from ALECs. For example, in the case of collocation, BellSouth security is not enhanced by having ALECs technicians in our buildings. We are able to recover costs of security devices to give ALECs technicians pretty much unfettered access to our central offices for those ALECs that have collocation there.

So, I think, the analog is that just as the card reader protects the central office, the access terminal is meant to protect BellSouth's access in these garden apartments. I think, the cost causer is the ALEC, not BellSouth.

COMMISSIONER JABER: Mr. Milner?

THE WITNESS: Yes, ma'am.

COMMISSIONER JABER: Yesterday you agreed with me that it's BellSouth's decision to, because of the network reliability concerns that BellSouth has to construct the access terminal and allow ALECs access that way.

THE WITNESS: Yes, ma'am.

COMMISSIONER JABER: So, you agree it's BellSouth's internal decision because of concerns they

have with network reliability.

THE WITNESS: Well, it was our decision or our conclusion that this was the right form of access, yes.

COMMISSIONER JABER: Okay. If somehow, the ALECs could propose to you a solution to your concerns over network reliability, and this Commission approved it or condoned whatever the solution is to your concerns with security, there would be no other concern that BellSouth would have in allowing the ALECs direct access to the garden terminal.

THE WITNESS: That's right. So long as we address both the reliability and security and the inventory issues that we've talked about, maintaining the computer databases properly. If all of those were addressed, then that would be fine. If we reached a mutually-agreeable solution, that's -- you know, that's what we're after, nothing more.

BY MR. LAMOUREUX:

Q Mr. Milner, I assume the reason you put in your testimony the assertion that the ALECs are the cost causer of the access terminal is to get at the idea that you believe it's appropriate that ALECs should pay for the cost of the access terminal, because they're the cost causers in your mind, correct?

A Yes. And, as I said, I believe, in my summary,

BellSouth doesn't need to protect its network from its technicians.

Q That's all I'm trying to get at is you agree with the converse, that if the Commission determines that it is BellSouth that is the cost causer, would you agree with me, then, that the ALECs should not have to pay for the costs of those access terminals?

A I think, you already asked me that, and I agreed with you.

Q Okay. I just want to clarify one thing on the record that I did yesterday. When I talked about the possibility of this rate or that rate going away, I was pointing to the chart. I just said this rate and that rate into the record, which may not be clear.

If the Commission determines that BellSouth is the cost causer of the access terminal and, therefore, the ALEC should not incur the cost of the access terminals, if you assume my numbers are right on this chart, would you agree with me that in the INC situation the $333 and the $109 cost to install and set up the access terminal would go away?

A Yes.

Q And would you agree with me that the $65 NRC for the network terminating wire and the $113 NRC for the INC would probably be reduced as well?

A If the Commission came to that finding, yes, there would be less work involved.

MR. LAMOUREUX: That's all I have. Thank you, Mr. Milner.

THE WITNESS: Thank you, sir.

MR. SLOAN: No questions.

MR. FONS: No questions, Mr. Chairman.

CHAIRMAN DEASON: Staff?

MR. KNIGHT: Staff has no questions.

CHAIRMAN DEASON: Commissioners? Redirect?

MS. WHITE: Yes, just a few questions.

REDIRECT EXAMINATION

BY MS. WHITE:

Q Mr. Milner, what is the demarcation point rule in Florida.

A The demarcation rule in Florida has said that the demarcation must be at the end user's apartment or office suite. It is not at this minimum point of entry. In fact, that's not allowed by the Commission's current rules. So, it's at the individual apartment or suite, not at the edge of the property and not at the basement.

Q And what consequence does that have on the issue you're discussing?

A Well, it has quite a lot of impact, because in effect, what we're doing is changing, to some degree, the

responsibility for who's going to do what and from whom end user customers will seek help when their service doesn't work.

COMMISSIONER JACOBS: Does that vary, according to whether or not you -- who owns the inside wire?

In other words, while it may be allowable that the minimum point of entry is at the individual units, if the decision is made that the ILEC owns the inside wire, does that shift the location of the minimum point of entry?

THE WITNESS: Not by itself. In other states -- not in Florida, but in other states where BellSouth follows the FCC rules, which say it can be at either place, there have been a few cases where the property owner has said, "I would like you to move the demarcation point to the basement or to the edge of the property, and we've worked through that with the property owner to sell them that wire or that cable.

So, in that case, yes, the demarcation point moved as did the ownership of the wire. What we don't believe is workable is to move the demarcation point without somehow accounting for who is going to do the work of that -- those cables that now appear to the customer's inside wire. In other words, if we move the demarcation point, that's where we say our responsibility ends. So,

if that other wire breaks, then it's the property owner or the end user's responsibility to get it fixed.

COMMISSIONER JACOBS: Okay, thank you.

BY MS. WHITE:

Q Following up on Commissioner Jaber's question about a proposal that satisfies the reliability security and inventory concerns of BellSouth, to your knowledge, has any ALEC made such a proposal?

A No. The only proposal the ALECs have made is this direct access that, basically, says let us tie our facilities directly to yours.

Q Okay. And can you name for me the states in which BellSouth has had problems with ALECs arbitrarily taking BellSouth's NTW?

A I'll tell you the ones that I'm, personally, aware of. I don't claim to know all of them, but we've had significant problems in Tennessee and Georgia. And I mentioned we've had problems here in Florida and Miami with a company that at the time was not certificated, but I understand is now.

MS. WHITE: Thank you. That's all I have.

CHAIRMAN DEASON: Exhibits?

MS. WHITE: BellSouth would move Exhibit 120.

CHAIRMAN DEASON: Without objection, show Exhibit 120 admitted.

(Exhibit 120 admitted into the record.)

MR. MELSON: Move 121.

CHAIRMAN DEASON: Without objection, show 121 is admitted.

(Exhibit 121 admitted into the record.)

CHAIRMAN DEASON: Thank you, Mr. Milner.

THE WITNESS: Thank you.

MS. BOONE: Mr. Deason, would this be a good time to take up 118?

CHAIRMAN DEASON: We're going to take a short recess, and we'll do that when we reconvene. I would also ask everyone to take a look at the additions to the Recognition List and make sure there are no objections there.

MS. WHITE: Chairman Deason, could Mr. Milner be excused, please?

CHAIRMAN DEASON: Yes.

MS. WHITE: Thank you.

(Witness excused.)

CHAIRMAN DEASON: That will be the first order of business when we get back on the record. We'll take 10 minutes at this time.

(Recess taken.)

CHAIRMAN DEASON: Call the hearing back to order.

Has everyone had an opportunity to look at the five additional items requested to be added to the Recognition List?

MS. BOONE: Chairman Deason, if we could just hold this off until later. Mr. Ross and I were discussing something about some of these items.

CHAIRMAN DEASON: Okay.

MS. BOONE: Thank you.

CHAIRMAN DEASON: Then, we'll hold off on that. Then, let's address Exhibit 118. Is there a motion to have it admitted?

MS. BOONE: Yes.

CHAIRMAN DEASON: Okay. BellSouth, any objection?

MR. ROSS: Mr. Chairman, I have to admit I was not present when Exhibit 118 was discussed. May I just walk out in the hall and see if Ms. White is standing out there?

CHAIRMAN DEASON: Surely.

MR. ROSS: Thank you.

CHAIRMAN DEASON: Mr. McGlothlin, why don't we go ahead and address your issue -- your witness, Mr. Gillan.

MR. McGLOTHLIN: The next witness on the list is FCCA witness, Joseph Gillan, whose testimony has been the

subject of stipulation. The parties agree the testimony can be entered at this point.

CHAIRMAN DEASON: Without objection; hearing no objection, show that testimony shall be inserted.

CHAIRMAN DEASON: Are there exhibits to be identified?

MR. McGLOTHLIN: Mr. Gillan sponsors two exhibits. They've been identified to this point as JPG-1 and JPG-2.

CHAIRMAN DEASON: We will identify those as composite Exhibit 122.

(Exhibit 122 marked for identification.)

CHAIRMAN DEASON: Do you move those at this time?

MR. McGLOTHLIN: I do.

CHAIRMAN DEASON: Without objection, show then composite Exhibit 122 is admitted.

(Exhibit 122 admitted into the record.)

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

REBUTTAL TESTIMONY

OF

JOSEPH P. GILLAN

ON BEHALF OF

FLORIDA COMPETITIVE CARRIERS ASSOCIATION

DOCKET NO. 990649-TP

Introduction and Witness Qualification

Q. Please state your name, business address and occupation.

A. My name is Joseph Gillan. My business address is P.O. Box 541038, Orlando, Florida 32854. I am an economist with a consulting practice specializing in telecommunications.

Q. Please briefly outline your educational background and related experience.

A. I am a graduate of the University of Wyoming where I received B.A. and M.A. degrees in economics. From 1980 to 1985, I was on the staff of the Illinois Commerce Commission where I had responsibility for the policy analysis of issues created by the emergence of competition in regulated markets, in particular the telecommunications industry. While at the Commission, I served on the staff subcommittee for the NARUC Communications Committee and was appointed to the Research Advisory Council overseeing NARUC's research arm, the National Regulatory Research Institute.

In 1985, I left the Commission to join U.S. Switch, a venture firm organized to

develop interexchange access networks in partnership with independent local telephone companies. At the end of 1986, I resigned my position of Vice President-Marketing/Strategic Planning to begin a consulting practice. Over the past decade, I have provided testimony before more than 25 state commissions, four state legislatures, the Commerce Committee of the United States Senate, and the Federal/State Joint Board on Separations Reform. I currently serve on the Advisory Council to New Mexico State University's Center for Regulation.

Q. On whose behalf are you testifying?

A. I am testifying on behalf of the Florida Competitive Carriers Association (FCCA), a state association of carriers and national organizations committed to promoting a competitive environment for local, long distance and related telecommunications services in Florida.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to generally respond to the testimony of Alphonso Varner dated May 1, 2000. In his testimony, Mr. Varner endorses the goal of achieving efficient competition in the local market for the benefit of consumers. In direct contrast to this philosophy, however, Mr. Varner then claims that the cost methodology adopted by the FCC -- which, as the Commission is aware, is a forward-looking economic methodology -- produces UNE prices that are "too low" and would lead to undesirable distortions and inefficiencies in the marketplace (page 5, lines 8-12; page 7, line 3-9). Further, Mr. Varner rejects cost-based pricing *entirely* as it

relates to UNE combinations, claiming that these charges should reflect "full market value" (page 17, lines 15-16). As I explain in my rebuttal below, however, Mr. Varner's recommendations cannot be squared with either economic theory or this Commission's own orders and should be rejected.

Q. How is your rebuttal testimony organized?

A. My testimony is organized into two basic sections. First, I briefly review the fundamental principles that underlie economic costing. In this section, I explain why the most critical criterion of an economic cost model is that it be *forward-looking*. This conclusion is not new, of course -- it lies at the heart of the Florida Commission's policies, the FCC's pricing rules, and was clearly endorsed by Eighth Circuit in its review of those rules. This discussion will demonstrate that Mr. Varner's perspective on UNE-pricing would turn economic theory on its head and reinforce the single greatest distortion in the market -- the incumbent's effective monopoly -- in perpetuity.

Second, my testimony focuses on the most serious consequence of inefficient UNE-prices, the effect on local competition of *inflated* UNE prices. The rates that the Commission establishes in this proceeding will determine the level, breadth and focus of competition for retail services. It is here, when the Commission establishes *wholesale* UNE rates that entrants must pay to access the existing network, that the Commission ultimately decides the *retail* prices that consumers pay. While Mr. Varner dwells throughout his testimony on the impact that allegedly "understated"

UNE rates would have on the ILECs, even he acknowledges that excessive UNE rates have the effect of foreclosing competition. Unlike Mr. Varner's theoretical discussion, however, my testimony documents the fact that UNE-based competition in Florida's local market is virtually non-existent. As the Commission considers the various cost-study adjustments proposed by individual FCCA members, it should never lose sight of the ultimate purpose of this proceeding -- to create the conditions necessary for local competition.

Q. You indicated that your testimony will address the recent decision by the Eighth Circuit that addressed the FCC's pricing rules. Do you have a general comment regarding this decision?

A. Yes. To begin, I would like to emphasize that this decision is relatively recent (filed July 18, 2000) and, as a result, there has not been time for a full evaluation of all of its aspects. Indeed, my understanding is that the decision itself is not yet legally effective (and may never become effective if stayed and reversed). Furthermore, I am not a lawyer, and therefore I am not able to comment on the legal significance of the decision. Nevertheless, the decision is a part of the landscape and, as a consequence, I have tried to explain its reasoning from the perspective of an economist.

As I explain below, I believe that the Eighth Circuit's decision, as an economics matter, should have little impact on establishing correct UNE rate levels. Unfortunately, however, I also believe that the ILECs will adopt interpretations of this decision that they claim condone a radical departure from economic pricing. While

this controversy swirls, however, it important that the Commission remain focused on establishing economic, cost-based UNE prices that can support local competition.

Fundamentals of Economic Costing

Q. Why are you offering a "primer" on economic costing in this proceeding?

A. As the Commission reviews the various criticisms of the ILEC models, it is useful that it have an overall understanding of the economic principles that should apply. Such a review is particularly important now, given the confusion introduced by the Eighth Circuit's recent decision concerning the FCC's cost rules. As I explain below, however, I do not believe that this decision fundamentally changes the principal focus of this proceeding.

Q. What are the three basic dimensions of cost modeling?

A. The three basic dimensions of any cost model are: (1) its perspective, (2) its time-horizon, and (3) the increment of change being reviewed. I use the term "perspective" to refer to the model's central focus — that is, is the cost model estimating *forward-looking* costs, or is it looking at costs that have been incurred in the *past* (embedded costs)?

The second basic dimension of a cost model is the study's time-horizon — is the study looking only at short-run changes in cost (i.e., is it considering only costs that can be easily varied by a company), or does the study adopt a time-horizon that is sufficiently long so that all costs are treated as variable (and thus should be included in the study).

The final fundamental dimension of any cost model concerns the increment (or cost object) of analysis. That is, is the study looking at costs associated with a small

change in output, the addition/deletion of an entire service, or the costs associated with an entirely new line of business.

Q. Of these three dimensions, which is the most critical?

A. While each of these dimensions is important, the one that is *most* important is that the cost-analysis be forward-looking. The reason that a cost-study must be forward-looking can be traced to the central role that price plays in a market economy.

The most critical economic function of price is to signal the value of resources that *will be* used to produce a product or service. The reason that this objective is described in the future tense is that the only decisions that can affect resource choices are those that occur in the future -- after all, it is impossible to affect decisions that have *already* been made.

Because the central goal of economics is to promote the efficient use of resources, its focus is on decisions that will be made in the *future*, and the consequences of those decisions on costs that will be incurred in the *future*.

Q. How does this focus on future decisions translate into cost modeling?

A. Because a forward-looking economic cost model must look to the future, it is unavoidably built from *assumptions* about future investment. Since the future cannot be known with exactness, forward-looking cost studies are inherently presumptive -- knowledgeable people must make informed choices about what technologies and investments *would be* used to meet demand.

Certainly, the most rational basis for making these choices is to select technologies and investments that are the most efficient at the time the cost analysis is prepared.

The point here is that the threshold requirement that a cost-study be forward-looking leads inevitably to the "assumption" that a forward-looking cost study reflect efficient behavior.

Q. Please explain the significance of a study's "time-horizon" on a cost model.

A. The next most important attribute of a cost model (once the forward-looking requirement is imposed) concerns the number of "production components" or "inputs" that will be treated as variable by the analysis. Examples of production inputs in the telecommunications industry are things like physical infrastructure (for instance, conduit, poles, land and buildings), transmission and switching facilities, and the corporate/operations infrastructure that supports the investment.

The time-horizon chosen for a cost study determines which of these basic inputs are permitted to change and which are held constant. Generally speaking, the longer the time horizon, the more inputs are seen as variable, and thus appropriate for inclusion in a forward-looking cost analysis. This general relationship between time and cost is illustrated by Figure 1 of Exhibit ____ (JPG - 1).

The time-horizon assumption carries an important corollary as well. Not only does the selected time-horizon determine which inputs will be considered *variable*, it also effectively determines which inputs should be evaluated as forward-looking and *modeled* to reflect efficient behavior. The forward-looking assumption and selected time-horizon are inherently linked in that the only costs that are relevant to an economic cost model are the forward-looking costs of those inputs that are allowed

to change. If a particular input will never be added to, replaced or modified in the future, then there can be no future cost associated with it.

This point is sufficiently important that it bears repeating: Any network feature that is held constant in forward-looking analysis is properly viewed as a *constraint* on that analysis and should not be included as a *cost* by the analysis. If a cost model assumes that a particular input is not variable — that is, it is frozen to reflect an inherited condition and ignores how it would be supplied in the future — then the *cost* of that particular input is no longer relevant to the analysis at all.

The bottom line is that there are two, mutually exclusive, categories in an economic cost model — inputs that are *fixed* (and which may influence the cost of other inputs, but are not themselves included), and those that are *variable* (and are thus modeled in their forward-looking, efficient use).

Q. Please explain the third basic dimension of a cost model, i.e., the "increment-of-change" that will be analyzed.

A. The final basic feature of any cost model is defining precisely *what* will be modeled -- i.e., does the model look only at a *change* in demand for a particular service/network element, or the cost of providing the *entire* service/network element. Obviously, the larger the increment of analysis, the larger the number of inputs that are relevant. For instance, a cost study focusing on the additional cost of increased traffic may not even consider costs associated with billing, while a study that looked at the additional cost of an entire service might include not only billing, but marketing and customer

support as well.

Q. Applying this framework, has the Florida Commission generally supported developing cost estimates using forward looking economic standards?

A. Yes, I believe is a fair characterization. Overall, the Florida Commission has made clear that network element prices are to reflect forward-looking (not historical, sometimes labeled "actual") costs, and it has embraced the necessary implication of that policy, that only efficient network designs are relevant to the exercise. While the Commission correctly adopted a forward-looking approach to costing, I explain later in my testimony that market experience gained since the initial implementation of that concept demonstrates that caution and the lack of adequate data has led the Commission to set UNE prices that are too high, with only negligible competition being the result.

Q. Is Mr. Varner's discussion consistent with these fundamental economic principles?

A. No. Mr. Varner asserts that the FCC's forward-looking cost methodology would prevent an ILEC from achieving full cost recovery. In context, it is apparent that Mr. Varner is equating "actual cost" with embedded cost, or the cost that the ILEC may have incurred in the past. As I explained above, however, economic theory recognizes that forward-looking costs are the most accurate measurement of the relevant "actual" costs that should be used to calculate UNE prices.

Further, Mr. Varner's objections go far beyond what cost methodology is appropriate. In addition to "cost," Mr. Varner claims that UNE prices should also account for

"...market, regulatory and competitive conditions" and "... be functional in the marketplace and consistent with prices for similar service" (page 18, lines 2 to 8). Each of these phrases, however, distill to the same goal — inflate UNE prices so as to maintain BellSouth's market dominance. Mr. Varner's perspective as to what constitutes a "functional UNE price" should be all the warning the Commission needs to understand it must carefully scrutinize BellSouth's cost studies to assure that they comply with the core economic principles described earlier.

Q. Does the Eighth Circuit's decision materially alter the basic framework of economic costing that you describe above?

A. Although I am not a lawyer, it is interesting (and useful, I believe) to overlay the Eighth Circuit's opinion to the issues discussed above. To begin, the Eighth Circuit validated the most important conclusion reached by both the FCC and Florida Commission — the requirement that UNE prices should reflect forward-looking costs:

> Forward-looking costs have been recognized as promoting a competitive environment which is one of the stated purposes of the Act. The Seventh Circuit, for example, explained, "[I]t is current and anticipated cost, rather than historical cost that is relevant to business decisions to enter markets ... historical costs associated with the plant already in place are essentially irrelevant to this decision since those costs are 'sunk' and unavoidable and are unaffected by the new production decision." Here, the FCC's use of a forward-looking cost

methodology was reasonable. Iowa Utilities Board v. Federal Communications Commission, Case No. 96-3321, opinion dated July 18, 2000, at page 10, omitting citation to Seventh Circuit Decision.

Where the Eighth Circuit disagreed with the FCC, however, was with the FCC's requirement that a TELRIC model estimate (subject to the constraint that wire center locations not change) the forward-looking cost of any entirely new (i.e., "hypothetical") network. As a result, the Eighth Circuit vacated the specific rule that required a comprehensive redesign of the ILEC's network (i.e., Rule CFR § 51.505(b)(1)).

Q. As you understand it, what is the effect of the Eighth Circuit's decision on the cost methodology that should be used?

A. As I indicated at the opening of my testimony, the Eighth Circuit decision is both new and controversial. It is unclear whether the decision will be stayed, or even reversed. Nevertheless, it is useful to understand *why* the Court remanded the "hypothetical network" requirement to appreciate what effect it might have on how cost studies will be conducted. As I understand the decision, the Court effectively rejected the view that the cost of the *entire* network should be considered in a forward-looking analysis because the only portion of the network relevant to the analysis is that increment being used by the entrant. According to the Court:

> The new entrant competitor, in effect, piggybacks on the ILEC's existing facilities and equipment. It is the cost to the ILEC of

providing that ride on those facilities that the statute permits the ILEC to recoup. This does not defeat the purpose of using a foward-looking methodology as the intervenors assert. Costs can be forward-looking in that they can be calculated to reflect what it will cost the ILEC in the future to furnish to the competitor *those portions or capacities of the ILEC's facilities and equipment that the competitor will use* including any system or component upgrading that the ILEC chooses to put in place for its own more efficient use. In our view it is *the cost to the ILEC of carrying the extra burden* of the competitor's traffic that Congress entitled the ILEC to recover, and to that extent, the FCC's use of an incremental approach does no violence to the statute. Iowa Utilities Board v. Federal Communications Commission, Case No. 96-3321, *opinion* dated July 18, 2000, at page 8, emphasis added.

Q. What issues are embedded (excuse the pun) in this passage?

A. I believe that there are two issues. The Court appears to say that an appropriate cost analysis should estimate only the forward-looking cost of the network increment used by competitors, and that the remaining (i.e., fixed) components of the network should not be reoptimized. Of course, this would mean (as I explained previously) that the costs of those network facilities that are *not* part of the forward-looking analysis would fall-out of the cost calculation in their entirety. Therefore, the question is raised as to precisely which network components should become forward-looking

(and, therefore, must be *optimized* for efficiency) and which network components should be held constant (and thus *eliminated* from the analysis).

Q. What is the second issue raised by the decision?

A. The second issue concerns the possibility that there is an efficient technology that would otherwise be considered in the calculation of forward-looking costs, but that the ILEC affirmatively refuses to implement. In such cases, there would conceivably be a conflict between both the TELRIC and TSLRIC standards that require forward-looking efficient technology, and the Court's superficial acceptance of deliberately inefficient behavior.

Q. With respect to the first issue — i.e., where to draw the line between network components that are included in a cost analysis and those that are treated as a fixed constraint — what is your recommendation?

A. Prior to the Eighth Circuit's decision, the FCC's rules effectively required that *all* aspects of the network be seen as variable and, therefore, included when calculating the forward-looking cost of each network element. The Eighth Circuit's decision would seem to indicate that the costs of certain network components should be treated as fixed and *excluded* from the UNE price. For instance, if the basic network infrastructure of conduit, poles and buildings is treated as a *constraint* in a UNE cost-study, then the *cost* of this infrastructure may not be included in the UNE rate. These facilities would be part of an existing infrastructure that would not change due to the "extra burden" of the entrants and, therefore, would not be part of a forward-looking

study.

As a practical matter, I expect that this core issue -- i.e., which costs to include and which to exclude as a constraint -- will be debated extensively at the FCC. The issue here is simply how should the Florida Commission approach the question in *this* proceeding, at *this* time. As I explain in the following section, the most important outcome of this proceeding are UNE prices that support competition. So long as the Commission applies a standard that estimates the forward-looking cost of an efficient network for each portion of the network included in the analysis, then such an approach would seem to comply with even a conservative reading of the Court's decision. That is, by including in the analysis even those facilities that need not (under the Eighth Circuit) be reoptimized, the Commission would be establishing an upper bound of the appropriate UNE price. This would leave open, of course, the opportunity for additional reductions in UNE prices should the FCC adopt (in the future) an even more incremental standard in response the Court's remand.

Q. With respect to the second issue raised by the Court's decision — the potential that an ILEC would deliberately deploy obsolete or inefficient technology — what do you recommend?

A. I am not currently aware of a tangible example of this concern in this proceeding (at this time). Clearly, the Commission cannot countenance any attempt by an ILEC to deploy inefficient OSS provisioning systems that would have the effect of increasing their rivals' costs, and it would not seem that the Eighth Circuit's decision would bless

such activity in any event. In this one area where an ILEC would have an incentive to deploy inefficient technology (i.e., where new systems are being implemented to satisfy its nondiscrimination obligations) there is nothing in the Court's decision that would prevent the Commission from *requiring* (and, therefore, *modeling*) the more efficient choice.

The Importance of UNE Pricing to Local Competition

Q. Even Mr. Varner agrees that efficient UNE prices should promote local competition. That said, how has UNE-based local competition fared under the existing UNE rates?

A. It is clear that establishing a competitive local exchange market is one of the most difficult policy objectives of modern times. It has been four years since the Telecommunications Act of 1996 ("the Act"), with its sweeping reforms designed to foster local competition, was enacted and yet little competition has emerged. Although obtaining reliable data on the extent of local competition is difficult, the incumbent LECs are required to file periodic reports with the FCC quantifying the level of competitive activity dependent upon the entry tools (i.e., service-resale and UNEs) made possible by the Act. These reports provide a useful yardstick to measure the implementation of the Act's core provisions, particularly those requiring incumbents to provide entrants nondiscriminatory access to network elements, alone and in combination.

Q. What do these reports indicate about the level of local competition in Florida?

A. The reports show that local competition in Florida is virtually nonexistent, particularly forms of competition that depend upon access to UNEs. The hallmark reform of the federal Act was that it was *supposed to* offer entrants nondiscriminatory access to the existing network on the same basis as the incumbent. UNE-based competition held great promise because it was expected to position entrants as full-fledged local exchange providers - i.e., positioned to innovate, compete in related markets (including exchange access), and replace facilities where appropriate. Yet, as of June 1999, there were just over 10,500 unbundled loops in the entire state of Florida, with effectively none in the areas served by GTE/Verizon and Sprint. See Table 1 of Exhibit _____ (JPG-2).

Not only has UNE-based competition failed to materialize to any significant degree, it is being far outstripped just by the *growth* in lines enjoyed by the incumbent ILECs. Table 2 (below) exposes a Florida marketplace of rapidly expanding ILECs — with substantial growth in both the business and residential markets — while UNE-based competition grew marginally at best. In the first six months of 1999 (the most current period available from the FCC's reports), the sum total of all UNE-based entrants in Florida gained only 1,100 lines per month, while the ILECs added nearly 18,000 business lines and 38,000 total lines per month. This disparity is even more revealing when one considers that the ILEC gains are pure *growth*, while the CLEC's gains reflect *both* their share of growth and their penetration into the existing base (approximately 11 million lines). See Table 2 of Exhibit _____ (JPG - 2).

Q. Is there evidence from other states that demonstrates that UNE-based entry can develop rapidly and support widespread competition?

A. Yes. Although delayed by litigation, the UNE combination known as the platform (UNE-P) is now finally becoming available in a few markets, most notably New York. This combination enables the entrant to lease capacity in existing switches, thereby avoiding any need to manually reconfigure facilities to provide the customer competitive service. Preliminary results from New York appear to confirm that UNE-P has the potential to support mass-market competition. Table 3 of Exhibit _____ (JPG - 2) contrasts the penetration rates achieved by UNE-P to the very limited competitive inroads achieved by loops obtained individually.

The comparably rapid expansion of competitive activity made possible by UNE-P is all the more remarkable when one considers that individual loops have been available in New York since before the Act was enacted. As a result, Table 3 does more than compare the relative performance of these strategies in 1999 – the table actually compares the growth of UNE-loops in their *fifth* year to the growth of UNE-P at *introduction*.

Preliminary evidence from Texas is similarly encouraging. While in Florida entrants are adding just over 1,000 lines per month, UNE-P alone in Texas is supporting competitive inroads at a rate of more than 22,000 lines per month (Source: Supplemental Joint Affidavit of Candy R. Conway and William R. Dysart, CC Docket No. 00-4, page 16. UNE-P volumes are averaged for

December 1999 and January 2000, the two months of current data provided in the Affidavit).

Q. Why is access to UNE combinations at cost-based rates particularly critical for widespread competition?

A. When the cost to acquire and serve an individual customer is high, then competition must focus on only those customers where revenue potential is also high. Because the costs (and processes) to serve local customers using unbundled loops are complex and expensive, the value of this strategy is limited to those markets/customers whose services are *also* complex and expensive. As a practical matter, this means that UNE-loops (obtained individually) are most compatible with providing "design services" – i.e., those services that are sufficiently customer-specific to require special handling, even when the ILEC provides them. In contrast, mass-market services require automated provisioning systems that can minimize – indeed, in an electronic environment, trivialize – the cost to initiate service to individual customers. For instance, the nonrecurring charge proposed by BellSouth in this proceeding to migrate a loop/port combination is only 19¢ -- far below the cost to "hand-craft" service using an unbundled loop that must be reconfigured to an entrant-supplied local switch. As a result, where entrants have access to UNE combinations — and where UNE prices are properly established — more widespread local competition is beginning to emerge.

Of course, the unlocked potential of UNE-based competition in Florida is precisely

why BellSouth recommends that the Commission abandon its effort to establish cost-based prices for UNEs -- particularly UNE combinations -- and instead resort to strategies that yield "full market value" (page 17, line 16). Of course, from BellSouth's perspective as the incumbent monopoly, "full market value" is the price at which entrants are *foreclosed* from the market, thereby assuring its continued dominance.

Q. How do these observations impact the Commission's choices in this proceeding?

A. It is important that the Commission not be distracted from the central goal of this proceeding -- to provide entrants the same (that is, nondiscriminatory) access to the existing network that the incumbent enjoys. This means rejecting, clearly and emphatically, calls for "actual costs" and "full market value." This conclusion carries several implications.

The first is that the Commission should remain focused at estimating the forward-looking economic costs of network elements. Where uncertainty may have been met with caution in the past, the consequences of adopting inflated UNE-prices have prevented competition from developing for Florida consumers. This situation can, and should, be corrected.

Secondly, while all UNEs are important, the Commission should pay particular attention to those UNE that are vital to particular entry strategies. For UNE-P, this means getting the rates for loops, switching and shared transport right — as well as

making sure that the necessary nonrecurring charges to migrate customers reflect electronic provisioning and that any ancillary charges (for items such as message recording, daily usage files, feature activation, etc...) be cost-based.

For the advanced services market, the Commission should pay close attention to the recommendations of Terry Murray. She will outline for the Commission those aspects of the ILEC's UNE rates that are most critical to the offering of advanced data services by competitors. Although Ms. Murray represents a group of companies that specialize in offering such services, the concerns she expresses are important to all FCCA members more generally.

Finally, the Commission should make sure that not just traditional "loops" are available at cost based rates, but that higher speed loops — such as DS-1 loops — are priced correctly and provisioned as efficiently as possible. Correctly done, the broad competitive vision of the Act can become a reality in Florida, but only if UNE prices place entrants on the same footing as the incumbent with respect to the use of the existing network.

Q. Does this conclude your rebuttal testimony?

A. Yes.

CHAIRMAN DEASON: Ms. White, we have a motion to admit Exhibit 118.

MS. WHITE: Yes, and we have no objection.

CHAIRMAN DEASON: Very well. Show then that Exhibit 118 is admitted.

(Exhibit 118 admitted into the record.)

CHAIRMAN DEASON: And AT&T, you may call your first witness.

MR. LAMOUREUX: Actually, AT&T and Worldcom are presenting their witnesses jointly. And AT&T and Worldcom would call as their first witnesses a panel of Mr. Pitkin and Mr. Donovan, who submitted their testimony jointly.

CHAIRMAN DEASON: Very well. Please proceed.

JOHN C. DONOVAN

BRIAN F. PITKIN

were called as witnesses on behalf of AT&T Communications and MCI Worldcom and, having been duly sworn, testified as follows:

DIRECT EXAMINATION

Q Mr. Pitkin and Mr. Donovan, have you been sworn in already?

A (By Mr. Donovan) Yes, I have.

A (By Mr. Pitkin) Yes, I have.

Q Did you cause to be prepared and filed rebuttal testimony dated July 31st, 2000, consisting of 46 pages?

A (By Mr. Donovan) Yes, we did.

MR. LAMOUREUX: Mr. Chairman, for the record, pages 25, 28, and 43 through 44 contain BellSouth proprietary information. And we filed two versions of the testimony, one public and one proprietary. We have some folders that we put together with just the proprietary pages, if we want to do it that way to move the testimony into the record.

CHAIRMAN DEASON: I assume, what we can do is we can move into the record the redacted version of a nonconfidential version, and those pages of the testimony, which do contain confidential information, we can simply identify as an exhibit. And it can be admitted into the record, but its confidentiality status can be maintained.

MR. LAMOUREUX: I'd like to move that, if I may -- well, when I get further through, I suppose.

CHAIRMAN DEASON: Please proceed.

MR. LAMOUREUX: Do I need to assign an exhibit number to the confidential pages?

CHAIRMAN DEASON: Okay. That would be Exhibit 123.

(Exhibit 123 marked for identification.)

CHAIRMAN DEASON: Can you recite those pages again, please?

MR. LAMOUREUX: Sure. It's 25, 28, and 43

through 44. And that's of their rebuttal testimony, which was filed on July 31st.

CHAIRMAN DEASON: Very well.

BY MR. LAMOUREUX:

Q Do you have any corrections or changes to make to your rebuttal testimony?

A (By Mr. Pitkin) Yes, we do. On Page 22 of the rebuttal testimony, Line 20, there is a citation there that says, "Page 157." That should be "Page 109."

And then, on Page 23, Lines 11 and 12 currently read, "Both the BCPM and the BSTLM purport to estimate the forward-looking costs of providing UNEs." That should be changed to say, "Both the BCPM and the BSTLM purport to estimate forward-looking costs."

Q Any other changes or corrections?

A (By Mr. Pitkin) Not to the rebuttal testimony.

Q If I ask you the same questions as are contained in your rebuttal testimony, would your answers be the same?

A (By Mr. Donovan) Yes.

Q Did you also cause to be filed supplemental rebuttal testimony dated August 28th, 2000, consisting of 20 pages?

A (By Mr. Donovan) Yes, we did.

Q Do you have any changes or corrections to that

testimony?

A (By Mr. Pitkin) Yes, we have one change to that testimony. On Page 6, Line 18, the words, "attempted to make" should be changed to "made."

Q And again, if I were to ask you the same questions as are contained in your supplemental rebuttal testimony, would your answers be the same?

A (By Mr. Donovan) Yes, they would.

MR. LAMOUREUX: Mr. Chairman, I would ask that the rebuttal and supplemental rebuttal testimony of Mr. Donovan and Mr. Pitkin be inserted into the record as though read.

CHAIRMAN DEASON: Without objection, it shall be so inserted.

BY MR. LAMOUREUX:

Q Associated with your rebuttal testimony, did you prepare and cause to be filed Exhibits JCD/BFP-1 through JCD/BFP-15?

A (By Mr. Donovan) Yes, we did.

Q And attached to your supplemental rebuttal, did you prepare and cause to be filed Exhibits JCD/BFP-16 and JCD/BFP 17?

A (By Mr. Donovan) Yes, we did.

Q Do you have any changes or corrections to those exhibits?

A (By Mr. Pitkin) Yes. Exhibit 10, there's both a proprietary version and a nonproprietary version of that exhibit. The nonproprietary version has some divided by zero numbers in there. Those are because they are based on BellSouth's proprietary inputs. So, we didn't want to publish that information, because you could back into BellSouth's inputs. But the proprietary version does have all the corrected inputs used in our restatement.

Q And do you have any other changes or corrections to your exhibits?

A (By Mr. Pitkin) No.

MR. LAMOUREUX: Mr. Chairman, some of the exhibits also are proprietary, as Mr. Pitkin mentioned; in particular, 10, 16, and 17, contain BellSouth proprietary information. So, what I'd liked to request is that we give Exhibits 1 through 9 and 11 through 15 one composite exhibit number and then give 10, 16, and 17 a separate number. And we have those three exhibits in red folders.

CHAIRMAN DEASON: Very well. The nonconfidential exhibits will be identified as composite Exhibit 124. The proprietary exhibits, consisting of Exhibits 10, 16, and 17, will be composite Exhibit 125.

(Exhibits 124 and 125 marked for identification.)

REBUTTAL TESTIMONY OF

JOHN C. DONOVAN

AND

BRIAN F. PITKIN

ON BEHALF OF AT&T COMMUNICATIONS

OF THE SOUTHERN STATES, INC.

and

MCI WORLDCOM, INC.

DOCKET NO. 990649-TP

JULY 31, 2000

I. INTRODUCTION

Q. PLEASE STATE YOUR NAMES AND BUSINESS ADDRESSES.

A. My name is John C. Donovan. I am President of Telecom Visions, Inc., a telecommunications consulting company. My business address is 11 Osborne Road, Garden City, NY 11530.

My name is Brian F. Pitkin. I am a Director of Klick, Kent & Allen, Inc. ("KKA"), an economic and financial consulting firm. KKA, a wholly owned subsidiary of FTI Consulting, Inc., is located at 66 Canal Center Plaza, Suite 670, Alexandria, Virginia 22314.

Q. MR. DONOVAN, PLEASE DESCRIBE YOUR BACKGROUND.

A. I received a Bachelor of Science degree in Engineering from the United States Military Academy at West Point, NY, and a MBA degree from Purdue University. I have also completed the Penn State Executive Development Program. I have 30 years of telecommunications experience. My last employment before forming Telecom Visions, Inc. was with the NYNEX Corporation, also recently known as Bell Atlantic-North, and subsequent to the merger with GTE, as Verizon. I retired from NYNEX after 24 years of experience in a variety of line and staff assignments, primarily in outside plant engineering and construction. That experience included everything from personally splicing fiber and copper cables, to heading an organization responsible for the procurement, warehousing, and distribution of approximately $1 million per day in telecommunications equipment. I have had detailed hands-on experience in rural, suburban, and high-density urban environments. I spent several years on the corporate staff of NYNEX responsible for the development of all Methods and Procedures for Engineering and Construction within that company. To summarize, I have planned outside plant, I have designed outside plant, I have purchased telecommunications materials and contract labor, I have personally engineered and constructed outside plant, and I have designed methods for those who do such functions. I have also performed other functions, or have supervised those who do, in installing,

connecting, repairing, and maintaining the various parts of the telecommunications network.

I have also taught undergraduate students as an Adjunct Professor of Telecommunications at New York City Technical College, and have attended numerous courses in telecommunications technologies, methods and procedures. For the past four years, I have submitted affidavits, written testimony, and appeared as an expert telecommunications witness in proceedings before state regulatory commissions in Alabama, Arizona, Colorado, Georgia, Hawaii, Kansas, Louisiana, Maine, Maryland, Massachusetts, Missouri, Nevada, New Jersey, New York, Oklahoma, Pennsylvania, Texas, Washington, and before the Federal Communications Commission ("FCC").

Exhibit *JDC/BFP-1* to this testimony provides further detail concerning my qualifications and experience.

Q. MR. PITKIN, PLEASE DESCRIBE YOUR BACKGROUND.

A. I received a Bachelor of Science degree in Commerce, with concentrations in both Finance and Management Information Systems, from the McIntire School of Commerce at the University of Virginia in 1993.

After graduation from the University of Virginia, I joined Peterson Consulting, L.P., where I was involved in developing and analyzing large databases and performing economic analyses. In 1994, I joined KKA. Since joining the firm, I have been involved in cost analyses for the telecommunications, railroad, pipeline and postal industries. Many of the

analyses I have worked on have been submitted in regulatory and court proceedings.

During the past four years, I have had extensive experience with the cost models and underlying databases that have been submitted in proceedings arising out of the Telecommunications Act of 1996. I have analyzed cost studies and models sponsored by AT&T and MCI, Bell Atlantic, BellSouth, GTE, Sprint, Southwestern Bell, and US WEST that have been submitted in both unbundled network element ("UNE") proceedings and universal service fund ("USF") proceedings. I have thoroughly reviewed and filed testimony on the Benchmark Cost Proxy Model ("BCPM") and the HAI Model.

More recently, I have critiqued several "business case" models, submitted by various parties to the Federal Communications Commission, that purport to describe the economics of entry into local telephone markets. Also, I have recently evaluated cost studies and models calculating the cost of access and the cost of the FCC's new line sharing UNE. Finally, I have reviewed the FCC's Synthesis Model and presented my recommendations and modifications to the FCC Staff.

Exhibit JDC/BFP-2 to this testimony provides further detail concerning my qualifications and experience.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. We have been asked by AT&T Communications of the Southern States, Inc. (AT&T) and MCI WorldCom, Inc. to review and comment on the

BellSouth Telecommunications Loop Model© ("BSTLM") as it was filed in this proceeding. We will also, out of necessity, comment on certain components of the BellSouth Cost Calculator© ("BSCC") as it relates to the development of outside plant investment.

Q. HOW IS YOUR TESTIMONY ORGANIZED?

A. In Section II, we identify the modeling advantages and disadvantages of the BSTLM and discuss their effects on the estimation of material quantities. In Section III, we discuss the inputs and methodologies that have been used by BellSouth in this filing and explain why they serve to misstate costs significantly. In addition, we explain the modifications we have made in our restatement of BellSouth's models. Finally, in Section IV, we summarize our testimony and explain why the BSTLM and the BSCC, with proper modifications, can be used to generate UNE results for the outside plant portion of the local telephone network.

II. MODELING ADVANTAGES AND DISADVANTAGES OF USING THE BSTLM FOR CALCULATING THE COSTS OF UNBUNDLED NETWORK ELEMENTS

The BSTLM is a significant improvement over previously filed BellSouth cost studies

Q. WHAT ARE THE MAJOR ADVANTAGES AND DISADVANTAGES OF USING THE BSTLM FOR CALCULATING THE COSTS OF UNBUNDLED NETWORK ELEMENTS?

A. The primary advantage of using the BSTLM is that the model attempts to estimate the forward-looking costs of providing unbundled network elements using current technology. In addition, the BSTLM has adopted many of the advanced modeling techniques that recently have been employed in other models. In some cases, the BSTLM relies upon extensive databases, such as road databases and actual BellSouth customer databases, that could result in more realistic estimations of the outside plant required to provide telecommunication services.

The use of these extensive databases comes at a cost, however. First, the BSTLM requires significant processing time. Second, it contains extremely complex programming, containing approximately 30 thousand lines of source code.

Q. HAVE THESE DISADVANTAGES AFFECTED YOUR ABILITY TO ADEQUATELY REVIEW THE BSTLM?

A. Yes. As stated above, the BSTLM is a very large and complex model. By design, this model has the capability to "open up" certain portions of the modeling process that other models perform in "preprocessing" stages that are not easily reviewed. Unfortunately, BellSouth has thwarted this capability of the model by refusing to provide parties the source code in a format that would allow a user to adjust the model's algorithms and perform sensitivity runs. Instead, BellSouth has only provided a password protected ".pdf" (portable document format) version of the source code that is explicitly designed to prevent a user from transferring the text into a compiler (a software package that turns source code into an executable program). This is analogous to providing parties a model in Microsoft Excel while password protecting the formulas so a user cannot test any of the algorithms.

BellSouth has also refused to provide parties with the information necessary to perform similar analyses on the BSTLM that BellSouth's experts have relied on in their affirmative case. For example, Mr. Stegeman's direct testimony includes maps illustrating the network constructed by the BSTLM (Figures 7, 8, 9, 10, 13). During the May 15, 2000 workshop on BellSouth's cost models, Mr. Stegeman confirmed that much of the information needed to create these maps is contained within the ".idb" files produced by the BSTLM. However, BellSouth has refused

to provide the information necessary to allow other parties access to this information.

Access to the two pieces of information described above (i.e., source code in a format that can be compiled into an executable program and access to the information that produces the maps) must be provided before the parties and the Commission can fully understand the BSTLM. Because of BellSouth's refusal to provide these key pieces of information, we have not been able to perform any sensitivity runs on the model's algorithms or been able to view the network the BSTLM constructs -- information that Mr. Stegeman used himself in advocating use of the BSTLM in this proceeding. This Commission should require BellSouth to provide the parties with this information and allow parties the opportunity to file supplemental testimony based on the results of additional analyses.

Q. WHAT OTHER DIFFICULTIES HAVE YOU ENCOUNTERED IN EVALUATING THE BSTLM?

A. During the June 2, 2000 workshop, Mr. McKnight, a BellSouth employee, stated that it would take approximately three to four days to run each of the six BellSouth scenarios (three scenarios each broken down into 2 parts). Thus, it takes anywhere from 18 to 24 workdays to replicate BellSouth's initial filing.

This has two important implications. First, given enough time, we may have been able to fully evaluate the source code based on the .pdf text file produced by BellSouth and may also have been able to derive the

information from the .idb files to generate maps. However, we have had to focus our attention on replicating BellSouth's initial filing and performing sensitivity runs and have not had time to regenerate the source code or create maps. Second, due to these difficulties, we have had to restrict our sensitivity analyses to a subset of the elements BellSouth proposes.

In addition, we were not able to replicate BellSouth's initial filing for all loop elements. This is because neither the original "Rservice.sys" file (originally provided with the BSTLM), the subsequent "Rservice.sys" file (subsequently provided on May 12, 2000), or the most recent "Rservice.sys" file sent to us (on July 19, 2000) matched the file used to create BellSouth's proposed prices. In our restatement of the BSTLM, we have attempted to use Rservice definitions that match, to the extent possible, BellSouth's initial filing.

Q. WHAT ARE YOUR OPINIONS REGARDING THE QUALITY OF BSTLM?

A. At this point, BSTLM must be considered a prototype cost model until BellSouth provides all of the information necessary to fully review, audit, and perform sensitivity runs on all portions of the BSTLM. As we explain in our testimony below, we have concerns about certain portions of the BSTLM that we have not been able to fully review and test.

The BSTLM material quantities appear reasonable

Q. CAN YOU PLEASE DESCRIBE YOUR REVIEW OF HOW THE BSTLM ESTIMATES REQUIRED ASSET QUANTITIES?'

A. Yes. Because the BSTLM is a bottom-up model, it tries to estimate the equipment quantities necessary to construct the local telephone network based on a series of assumptions and inputs. The reliability of both the underlying assumptions and inputs directly affect the reliability of the BSTLM's outputs. In this proceeding, BellSouth has used its actual customer addresses and the actual road network in BellSouth service territories as inputs to the model. With a few exceptions, we conclude that the underlying way in which the BSTLM constructs the local telephone network is reasonable. Therefore, the BSTLM itself can be used to estimate the quantities of various equipment components required to construct a local telephone network. We will address the unit cost inputs later in our testimony.

Q. HAVE YOU COMPARED THE RESULTS OF THE BSTLM TO THE RESULTS OF THE HAI MODEL AND THE BCPM?

A. Yes we have.

Q. WHAT DO YOUR COMPARISONS SHOW?

A. In evaluating the network constructed by these three different cost proxy models, we focused our efforts on the quantities of various assets produced by each model. By ignoring unit cost inputs in making these comparisons, we have been able to focus on similarities and differences in

the underlying network that each model constructs. As a result, the conclusions in this portion of our analysis are unrelated to the unit cost inputs employed by each of the underlying models.

Our analysis shows, as we detail below, that the network constructed by the BSTLM requires much less equipment than the network constructed by the BCPM. In fact, the BSTLM appears to construct a network that is more efficient than the network constructed by the HAI Model. Exhibit JCD/BFP-3 summarizes the amounts of equipment constructed by the BSTLM, the BCPM Release 3.1 and the HAI Model Release 5.0a.

Q. HOW DID YOU DERIVE THE MATERIAL QUANTITIES IN THE TABLE IN EXHIBIT JCD/BFP-3?

A. The material quantities for the BSTLM were generated from the audit reports that a user can output from the model. We had to export both the configuration and investment audit reports for each of the 196 wire centers, requiring 392 individual exports. We then combined all of the individual configuration files into one large database (approximately 800Mb in size) and the individual investment files into one large database (approximately 900Mb in size). Once we prepared these databases, we used the queries that were provided to us by BellSouth to calculate each of the quantities in the above table.

The material quantities for the HAI Model and the BCPM were taken directly from the September 2, 1998 Rebuttal Testimony of Don J. Wood and Brian F. Pitkin in Docket No. 980696-TP before this Commission.

We did not perform any new analyses on either the HAI Model or the BCPM for this proceeding.

Q. WHAT ARE THE IMPLICATIONS OF THE MATERIAL QUANTITIES THAT THE BSTLM GENERATES?

A. The most obvious implication is that the BSTLM should generate investments that are lower than the HAI Model and significantly lower than the BCPM. In fact, BellSouth's new model, which we believe is a significant improvement over the BCPM, actually helps to illustrate that the BCPM constructed an inefficient network and artificially inflated costs. In other words, this Commission should expect to see costs from the BSTLM that are significantly lower than what this Commission adopted in Docket No. 980696-TP.

III. MODIFICATIONS TO BELLSOUTH'S MODELS

BellSouth's three scenarios need to be eliminated

Q. HOW DID BELLSOUTH FILE THE BSTLM IN THIS PROCEEDING?

A. BellSouth filed the BSTLM using three different scenarios. Each different scenario was used to generate the costs associated with different elements. The first scenario, "BST2000," generates estimated investment for unbundled network elements using a mix of fiber and copper facilities assuming universal digital loop carrier equipment ("UDLC"). The second scenario, "Combo," generates estimated investment when the loop element is bundled with the switching element using integrated digital loop carrier

equipment ("IDLC"). The third scenario, "Copper Only," generates estimated investment assuming a 100 percent copper network.

Q. ARE ALL THREE OF THESE SCENARIOS APPROPRIATE?

A. No. The BSTLM should construct a single network that estimates the forward-looking costs of providing the underlying services using existing technology. The only scenario that BellSouth filed that is consistent with these principles is the scenario called "Combo."

Q. WHY IS THE FIRST SCENARIO, "BST2000," INAPPROPRIATE IN THIS PROCEEDING?

A. The difference between the scenario called "BST2000" and the scenario called "Combo" is that "BST2000" uses UDLC, while "Combo" uses IDLC technology. While the "BST2000" scenario correctly designs all DLC-served circuits using analog to digital conversion at the field unit's remote terminal ("RT"), it then inappropriately performs an unnecessary digital to analog conversion in the central office, rather than keeping the signal digital.

While analog conversion is obviously not required when the BellSouth loop UNE is connected to the BellSouth switch UNE, it is also not required when loops are purchased on a stand-alone basis. Analog conversion for switched services is an inefficient and obsolete technology because the current digital switching environment is optimized for, and expects to receive digital signals. Requiring new entrants to purchase a configuration with double analog to digital conversions within the

BellSouth network would hinder the new entrant's ability to compete on price offerings or service quality. Allowing BellSouth to charge for conversion to analog in the central office would also require new entrants to pay for their own, unnecessary, additional equipment to convert the signal back to digital, because the new entrant's network will be totally digital. Current networks are not built to perform analog-digital, digital-analog, analog-digital conversions. Instead, one analog-digital conversion should be done at the RT, and the signal should remain digital by using Integrated DLC.

Next Generation Digital Loop Carrier systems, available for several years, currently support multiple switches. This allows new entrants to use integrated loops with either BellSouth's local switch or their own switch, in either case without analog conversion. The number of switches that an IDLC can support with a GR-303 interface varies by vendor. For example, Litespan 2000 can support four and the NORTEL AccessNode supports five, and DISC*S supports three. Furthermore, customers are requesting that their vendors increase this number to as high as eight. Given the very competitive DLC market, and the fact customers are driving this issue, it is apparent that this number will increase in the near future.

BellSouth's proposal of using UDLC is obviously a complicated, costly, and very inefficient loop offering, thereby forcing new entrants -- and their customers -- to accept a network configuration and service quality that is

inferior to what BellSouth actually provides to its own customers. This is discriminatory and we do not believe it is consistent with the Commission's intent.

In other words, the "BST2000" scenario is wasteful of equipment and technology because every single line is unnecessarily converted back to a copper pair circuit in the central office. Therefore, the "Combo" scenario should be used instead of the "BST2000" scenario.

Q. WHY IS THE THIRD SCENARIO, "COPPER ONLY," INAPPROPRIATE IN THIS PROCEEDING?

A. The "Copper Only" scenario builds the network using 100 percent copper. This is inappropriate for two reasons. First, this approach is not practical because of engineering restrictions on the length of a copper loop to support full POTS functionality that includes voice and simple analog dial-up modem service. Second, BellSouth's current outside plant guidelines require the use of both fiber and copper facilities. For customers located closest to the serving central office, copper loops are employed for most applications. These copper loops tend to be lower cost than the loops served by fiber feeder that are located farther away from the central office. By developing UNEs for copper loops using a model run that reconstructs the entire network using all copper facilities, BellSouth is attempting to inflate the average cost of a copper loop.

The correct approach is to base the costs of copper-only UNE's on the copper portion of the "Combo" network. In addition, use of a single,

appropriate network construct comports with the way ubiquitous outside plant is engineered and built, such that any typical service can be operated over any typical loop. Also, use of a single outside plant design prevents mixing and matching of costs or performing arbitrage on the rates.

Q. CAN YOU PLEASE SUMMARIZE YOUR RECOMMENDATIONS REGARDING THE THREE DIFFERENT SCENARIOS BELLSOUTH PROPOSED IN THIS PROCEEDING?

A. Yes. We have eliminated BellSouth's scenarios called "BST2000" and "Copper Only" based on the discussion above. Therefore, we have used the BSTLM to estimate the UNE costs based on the "Combo" scenario.

BellSouth's inputs in the BSCC should be based on the recommendations of witnesses Hirshleifer, Majoros and Darnell

Q. WHAT BSCC INPUTS HAVE YOU ADJUSTED BASED ON THE RECOMMENDATIONS OF OTHER WITNESSES?

A. We have adjusted BellSouth's cost of capital to reflect the inputs in the testimony of Mr. Hirshleifer and adjusted BellSouth's depreciation lives and salvage values to reflect the inputs in the testimony of Mr. Majoros. We have similarly adjusted BellSouth's plant-specific factors and expense development factors to reflect the inputs in the testimony of Mr. Darnell.

BellSouth's inputs improperly double-count inflation

Q. HOW DO BELLSOUTH'S CALCULATIONS OF LOOP COSTS IMPROPERLY DOUBLE COUNT THE EFFECTS OF INFLATION?

A. The cost of capital employed by BellSouth, this Commission, and Mr. Hirshleifer are "nominal" costs of capital. Nominal costs of capital compensate investors not only for the time value of money and business and financial risk, but also for the effects of inflation. BellSouth's proposed prices double-count inflation by:

- Using a unit-cost inflation factor that is applied to the material investment generated by the BSTLM; and
- Updating the unit costs for material and labor from what was previously determined by this Commission.

Q. WHY DOES USE OF THE INFLATION FACTOR BY BELLSOUTH DOUBLE COUNT THE EFFECTS OF INFLATION?

A. The cost of capital that Mr. Hirshleifer has developed, which we included in our restatement of the BellSouth models, already accounts for the effects of inflation. Specifically, the costs of debt and equity that Mr. Hirshleifer developed from financial market data already include a component that compensates ILEC investors for the loss in purchasing power of their invested capital that would otherwise be caused by the effects of inflation (thus, Mr. Hirshleifer developed a nominal cost of capital as opposed to a "real" cost of capital, which is the nominal cost of capital minus the rate of future inflation anticipated by debt and equity

investors). Furthermore, the cost of capital previously adopted by the Florida PSC in its prior proceedings was also a nominal cost of capital, meaning it was high enough to compensate ILECs for the effects of inflation. Any other adjustment for inflation, outside of the cost of capital, includes the effects of inflation *twice* in the capital component of the cost-based prices that BellSouth proposes.

Q. WHY DOES BELLSOUTH'S UPDATING OF THE MATERIAL AND LABOR COSTS, FROM WHAT HAS BEEN PREVIOUSLY DETERMINED BY THIS COMMISSION, DOUBLE COUNT THE EFFECTS OF INFLATION?

A. We understand that the capital cost components of the various annual recurring costs previously adopted by this Commission in the UNE and USF cases were developed by applying a nominal cost of capital to the forward-looking investment. Thus, these costs were high enough to offset the future effects of inflation. Allowing BellSouth to adjust the unit prices and labor rates it uses to develop investments in this proceeding effectively compensates the ILECs *twice* for the effects of inflation, once as part of the nominal cost of capital and again by inflating the investment base to which the nominal cost of capital is applied.

Q. WHY DO THE PARTIES RELY ON NOMINAL COSTS OF CAPITAL (ONES THAT INCLUDE COMPENSATION FOR INFLATION) RATHER THAN REAL COSTS OF CAPITAL (ONES THAT DO NOT INCLUDE COMPENSATION FOR INFLATION)?

A. Use of the nominal cost of capital is the most straightforward approach, because (as Mr. Hirshleifer discusses in his testimony) nominal costs of capital can be derived directly from data observable in financial markets. But if nominal costs of capital are employed, unit prices for material and labor used to develop the total network investment must be locked in at the levels initially established by the Commission. An alternative is to apply the real cost of capital to investment levels that are allowed to increase with inflation. While conceptually more consistent with the competitive market standard, such an approach is more unwieldy because it would require the Commission to estimate a real cost of capital. In addition, this approach would require that UNE rates increase each year to reflect the effects of inflation on the underlying investments. What clearly is inappropriate is to apply the nominal cost of capital to network investment levels that also are allowed to increase to reflect the effects of inflation because, as we stated above, BellSouth would thereby be compensated *twice* for the effects of inflation.

Q. CAN YOU PROVIDE A SIMPLE EXAMPLE OF THESE TWO ALTERNATIVE METHODS OF CAPITAL RECOVERY?

A. Consider an example with an initial investment of $1,000,000 employing the following assumptions:

- Economic life is 10 years;
- Nominal cost of capital is 10%;
- Inflation rate is 4%;
- Real cost of capital is 5.77% (1.10 / 1.04 - 1).

These assumptions lead to the following two cost recovery patterns that, over the life of an asset, have a present value equal to the initial investment in the asset. Exhibit JCD/BFP-4 illustrates that calculating an annuity based on the nominal cost of capital fully recovers the initial $1,000,000 investment over the 10-year period. The exhibit also illustrates that calculating an annuity based on the real cost of capital, and then inflating the annuity each year at the appropriate inflation rate similarly fully recovers the initial $1,000,000 investment over the 10-year period. Under either approach, the nominal discount rate is appropriate because the cash flows being discounted (shown in the "Inflated Annuity" column) already reflect the effects of inflation. Exhibit JCD/BFP-5 illustrates these two recovery pattern. The above charts help to illustrate the point that both cost recovery patterns result in the same present value at the end of the asset's life. However, it is obvious that using the nominal cost of capital allows BellSouth to recover more of its initial investment

earlier in the asset's life than using the real cost of capital. Therefore, if BellSouth is allowed to submit new material and labor prices before year 10, say in year 5, BellSouth will have over-recovered the appropriate amount of investment over this time period.

The inflation double-count in BellSouth's approach is illustrated in the example in Exhibit JCD/BFP-6, which assumes that BellSouth uses a nominal cost of capital and seeks new UNE rates each year to reflect the effects of inflation on asset and labor unit prices.

Exhibit JCD/BFP-6 shows that under BellSouth's approach, it would over-recover its initial investment by more than 21 percent if it were allowed to use the nominal cost of capital and adjust the material and labor prices for the effects of inflation. The charts in Exhibit JCD-BFP-7 also help to illustrate this point.

The solid lines on the charts in Exhibit JCD/BFP-7 are both sufficient to allow BellSouth to recover its investment and earn its cost of capital. Thus, the charts show that BellSouth's proposed approach, represented by the dashed lines, would allow it to recover more than the true economic cost of the asset. The difference between the two sets of lines on each of the above graphs illustrates the amount of BellSouth's over-recovery in each year, under the assumptions we have employed, if BellSouth is allowed both to use a nominal cost of capital and to inflate the underlying unit prices.

Q. WHAT ARE THE IMPLICATIONS OF THIS DISCUSSION FOR THE COST CALCULATIONS THAT THE COMMISSION MUST MAKE IN THIS PROCEEDING?

A. The Commission must calculate the capital component of recurring costs in a manner that avoids compensating BellSouth twice for inflation. As noted above, this can be done either (1) by using the previously-adopted material unit prices and labor rates in establishing the total network investment, and applying the appropriate nominal cost of capital, or (2) by using current material unit prices and labor rates and applying the real cost of capital (which also then requires that UNE rates be adjusted in subsequent years to reflect the effects of inflation on underlying material and labor unit prices). Because real costs of capital are difficult to calculate with precision, and because the UNE prices that have been in effect the past several years were based on a nominal cost of capital, we would recommend that the Commission continue to calculate the capital component of recurring costs by employing a nominal cost of capital and that it "lock in" its previously-adopted material unit prices and labor rates. This Commission's USF decision similarly recognized that "indexing may be appropriate, for example, in a contract arbitration, but not in this proceeding." (Order No. 980696-TP, pg. ~~157~~ 109) Indexing is similarly not appropriate in this proceeding.

Q. WHICH MATERIAL AND UNIT PRICES THAT THIS COMMISSION HAS PREVIOUSLY ADOPTED DO YOU RECOMMEND?

A. We recommend that this Commission rely on the material and unit prices it adopted in the USF proceeding, Docket No. 980696-TP.

Q. WHY DO YOU RECOMMEND USING THE COMMISSION'S DECISION IN THE USF PROCEEDING?

A. This USF decision specified the inputs appropriate for BellSouth in the sBCPM. There are three primary reasons why we feel it is appropriate to employ these unit-cost inputs to modify the BSTLM:

- Both the BCPM and the BSTLM purport to estimate the forward-looking costs ~~of providing UNEs~~ using current technologies, so the theoretical frameworks for the two cost proxy models should be similar;
- Many of the inputs in the BSTLM are similar or directly equivalent (except for DLC equipment which we describe below) to the inputs used in the BCPM, so the inputs are easily transferable; and
- BellSouth sponsored the BCPM in the Universal Service docket and the Commission's decisions considered BellSouth's evidence on inputs in that docket.

For these reasons, we believe that these inputs can be used in the BSTLM without the need to re-litigate unit cost inputs that this Commission has already adopted.

Q. WILL YOU PLEASE SUMMARIZE THE ADJUSTMENTS YOU HAVE MADE TO BELLSOUTH'S FILING TO AVOID THIS DOUBLE-COUNT OF INFLATION?

A. Yes. In order to avoid double counting the effects of inflation, we modified the BSCC to remove the inflation factor and have modified the unit cost inputs in the BSTLM to reflect the inputs this Commission previously adopted in Docket No. 980696-TP.

BellSouth's factor approach overstates the costs of engineering and installation

Q. HOW HAS BELLSOUTH DEVELOPED THE ENGINEERING AND INSTALLATION COSTS?

A. BellSouth's filing of the BSTLM and the associated components of the BSCC serve to distort costs. While the BSTLM is designed to calculate the total loop investment required to provide the various loop elements, BellSouth disabled many of these features and instead used the BSTLM to calculate only the material investment associated with the loop elements. BellSouth's filing then applies a series of factors to these material investments, for engineering and installation costs, in order to derive total installed investment.

BellSouth's factor approach to calculating installed investment distorts the actual investment required by assuming that engineering and installation costs are directly proportional to the material costs. Consider the following example:

***** Begin Proprietary*****

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XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXX***End Proprietary*** However, the true cost of placing a 400-pair cable is not significantly higher than the cost of placing a 25-pair cable. As a result, BellSouth's approach is not appropriate and serves to distort costs. It is surprising that BellSouth has resorted to applying such an inexact and inappropriate factor to material investment when it has Standard Time Increment values available. Standard Time Increments represent optimal direct labor times for outside plant functions, such as placing a foot of aerial cable or splicing 100 copper pairs, and provide more appropriate estimates of installation costs than BellSouth's factor approach.

In addition, the BSTLM includes some optimization routines that are based on investment. For example, the inputs filed by BellSouth include a variable named "MinimizeTotDistFDICost." This variable is set to "Yes," which purports to minimize the total cost of the FDIs and distribution cable in a distribution area. However, by excluding the engineering and

installation costs from this optimization routine, it appears that the BSTLM will only evaluate material investment, and will not perform its optimization routines based on accurate data (*i.e.*, it is missing a significant portion of the total installed investment). Thus, the BSTLM cannot determine the most optimal network.

For the reasons listed above, BellSouth's attempts to reflect the engineering and installation costs outside of the BSTLM, through the use of "factors," is inappropriate. This Commission previously reached the same conclusion in the USF proceeding by stating:

> We find that BellSouth's use of linear loading factors, while easy for BellSouth to apply, can generate results that seem to beg questions. For example, for 26 gauge buried copper cable, actual material costs as a percent of total cost stays constant at about 23 percent no matter whether the cable is 12 pair or 4200 pair. This means that the total cost of this cable is always about 4.3 times the actual material cost; thus, no economies of scale for exempt material, engineering, or BellSouth labor, ever occur. It seems very unlikely that there are no economies generated as cable sizes grow larger. Sprint apparently agrees, since for the same cable the total cost ranges from 11 times the material cost for 12 pair cable to approximately 1.6 times the cost for 4200 pair cable. (Order No. 980696-TP, pg. 157)

The Commission later reaches the conclusion that:

> While we agree ... that engineering costs may vary somewhat by pair size, we do not accept BellSouth's linear assumption for engineering costs. While BellSouth appears to have the lowest materials costs of all the LECs, they have significantly higher total costs in some cases more than three times as much as the next closest LEC. This is likely due in part to the engineering costs and the application of an inflation factor. (Order No. 980696-TP, pg. 187)

Q. HAVE YOU FIXED THESE PROBLEMS WITH THE BSTLM FACTORS?

A. For the most part, we have. The way in which BellSouth filed the BSTLM in this proceeding allows the user to modify the unit cost inputs. With one exception, we were able to successfully use the Commission's previously adopted unit cost inputs, which reflect installed material costs, and, as a result, were able to eliminate the corresponding in-plant factors. This methodology also corrects the model's optimization routines, which will now evaluate the total installed investment, rather than being driven solely by the material portion of investment.

Q. WHAT IS THE EXCPETION YOU REFER TO IN YOUR PRIOR ANSWER?

A. The DLC inputs in the BSTLM are extremely complex and do not lend themselves easily to employing the DLC inputs previously adopted by this Commission. Therefore, we could not appropriately modify the DLC unit-cost inputs in the BSTLM. Because these unit-cost inputs for DLC equipment reflect only material costs, we were forced to use an in-plant factor to develop the engineering and installation cost for DLC equipment.

Q. WHAT FACTORS DID YOU USE FOR ENGINEERING AND INSTALLATION COSTS OF DLC EQUIPMENT?

A. The in-plant factors for DLC hardwire and plug-in equipment used by BellSouth in the BSTLM are too high. Whereas we estimate that it would require 66½ hours to engineer and install what is essentially a completely

pre-fabricated DLC unit, BellSouth's labor factor generates an absurd equivalent of ***Begin Proprietary*** xxxxxx ***End Proprietary*** hours of labor to handle the same pre-fabricated unit. We modified BellSouth's factors to reflect an appropriate amount of engineering and installation costs. Specifically, the engineering and installation cost should reflect the installation of equipment that has been

> ...completely assembled and tested at the factory. Once the equipment is on site and bolted to its mounting pad, the only assembly required consists of connecting local power, connecting drop facilities, connecting optical fiber facilities, installing the back-up batteries, and plugging the circuit packs into their assigned locations in the racks.

[Alcatel Litespan 2000 DLC practice]

We believe the appropriate number of hours required to install pre-assembled DLC equipment are reflected in the HAI Model. Therefore, we have calculated the ratio of installed investment in the HAI Model to material investment in the HAI Model to arrive at an appropriate installation and engineering factor for DLC equipment. Exhibit JCD/BFP-8 details how these factors were derived.

Q. DID YOU MAKE ANY OTHER ADJUSTMENTS TO THE DLC INPUTS IN THE BSTLM?

A. Yes. The BSTLM includes DLC inputs for two different vendors, identified as Vendor 'A' and Vendor 'B'. We calculated the total investment required for different size facilities based on using only Vendor 'A' equipment and using only Vendor 'B' equipment. The chart in Exhibit JCD/BFP-9 illustrates the results of this analysis.

As the chart in this Exhibit illustrates, Vendor 'A' equipment is much more expensive than Vendor 'B' for larger DLCs (above 672 lines) and less expensive for smaller DLCs. This leads to the conclusion that in the real world, BellSouth most likely uses Vendor 'A' for smaller DLC equipment and Vendor 'B' for larger DLC equipment, thus explaining why BellSouth's model employs a mix of Vendor 'A' and Vendor 'B' equipment. More importantly, in the real world, a telecommunications provider would place the more efficient technology, i.e., use Vendor 'A' for smaller DLC equipment and use Vendor 'B" for larger DLC equipment. However, the BSTLM does not employ Vendor 'A' equipment for smaller DLCs and Vendor 'B' equipment for larger DLCs. Instead, it applies an assumed mix of Vendor 'A' and Vendor 'B' equipment to both smaller and larger DLCs. As a result, the BSTLM always overstates the required DLC investment.

Based on this analysis, we performed sensitivity analyses by first setting the BSTLM to use 100 percent Vendor 'A' equipment and then using 100 percent Vendor 'B' equipment. The results of these sensitivity analyses show that the Vendor 'B' equipment produces lower investment than the Vendor 'A' equipment.

Thus, we have employed, in our restatement of the BSTLM, an assumption that 100% Vendor 'B' DLC should be employed in the model because this is the only alternative available to us. However, this Commission should require BellSouth to fix this error in the BSTLM so

that the model assumes the more efficient DLC equipment for each size cabinet.

Q. ARE THERE OTHER INPUT ISSUES THAT THIS COMMISSION NEEDS TO BE AWARE OF?

A. Yes. BellSouth employs factors to calculate structure costs instead of relying on material and labor inputs. While we understand that the BSTLM has the capability to use these more disaggregrate structure inputs, BellSouth has effectively prevented the user from employing these options by locking this portion of the model. In addition, BellSouth has not provided the parties any information or guidance on how to enable this functionality or how the inputs are employed in the model's algorithms. Therefore, we have not been able to utilize this more appropriate methodology and have had to rely on BellSouth's factor approach to estimating structure investment.

BellSouth's unit cost inputs need to be modified

Q. WHY DO BELLSOUTH'S UNIT COST INPUTS NEED TO BE MODIFIED?

A. Based on the discussions above, BellSouth's unit cost inputs need to be modified for two reasons, i.e., (1) to eliminate the double-count of inflation caused by updating the unit cost inputs from what this Commission has already adopted, and (2) to remove BellSouth's factor approach for incorporating engineering and installation costs.

Q. HOW HAVE YOU ADJUSTED BELLSOUTH'S UNIT COST INPUTS TO ACCOMPLISH THESE MODIFICATIONS?

A. We have used the installed material costs from this Commission's order in Docket No. 980696-TP where appropriate unit prices are available. We have included, as Exhibit JCD/BFP-10 (proprietary) to this testimony, a table comparing BellSouth's proposed unit prices for *material only* with the unit prices for *installed* material we have used in our restatement of BellSouth's filing.

Q. WERE YOU ABLE TO DIRECTLY APPLY THE INPUTS FROM THE USF PROCEEDING IN THE BSTLM?

A. In most cases, yes. However, in some cases, the BSTLM inputs are not identical in structure to those used in the BCPM. For example, the BSTLM includes an input for 1500-pair 24-gauge aerial copper cable while the BCPM includes values only for 1200-pair and 1800-pair 24-gauge aerial copper cable. In these situations, we calculated reasonable values based on the Commission's values for the smaller and larger cable sizes (*e.g.*, we averaged the cost per pair of the 1200-pair cable and the cost per pair of the 1800-pair cable and multiplied that resulting cost per pair by the 1500 pairs). Exhibit JCD/BFP-10 (proprietary) also explains the rationale for our modified inputs.

BellSouth's loop length inputs do not reflect efficient network construction

Q. WHAT INPUTS DOES THE BSTLM USE TO DETERMINE THE OUTSIDE PLANT DESIGN OF THE LOOP?

A. The BSTLM attempts to optimize the network by adjusting many parameters, of which we are particularly concerned about five. Specifically, the BSTLM uses the following parameters for both carrier serving area ("CSA") design and allocation area ("AA") design

1. soft copper length limits;
2. hard copper length limits;
3. line limits between the soft and hard limit;
4. 24-to-26 gauge crossover lengths; and,
5. extended range line card limits.

These inputs all have a critical role in determining the network architecture of the local loop that is modeled by the BSTLM.

Q. WHAT ARE THE APPROPRIATE INPUTS FOR THESE ENGINEERING CRITERIA?

A. There are two sets of inputs that could be used in determining the network architecture. The most appropriate architecture should be the solution that results in the lower-cost network design. This is consistent with this Commission's previous determination that

> The choice of maximum allowable copper loop length (12 v. 18 Kft) is likely a cost minimization issue, not an either/or decision. Even assuming that 12 Kft is the rule of thumb, deviations from this standard would be based primarily on what yields the least cost arrangement overall, considering all relevant cost components. Accordingly, we

will not place a limit on the maximum allowable copper loop length. (Order No. 980696-TP, pg. 49)

Q. WHAT IS THE FIRST POSSIBLE NETWORK ARCHITECTURE?

A. The first option would require limiting the maximum copper loop length to 17,600 feet. In this scenario, the copper distribution plant would use 24-gauge copper cable for loop lengths over 13,000 feet and would never require extended range line cards. The 17,600 foot maximum length comports with Alcatel Litespan 2000 DLC practices.

Q. WHAT IS THE SECOND POSSIBLE NETWORK ARCHITECTURE?

A. The second option would require reducing the maximum copper loop length from 17,600 feet to 16,800 feet. In this scenario, the DLC equipment would use extended range line cards for loop lengths over 13,000 feet and would never require 24-gauge copper cable. Extended range line cards can be powered to overcome the thinner 26-gauge wire for long lengths normally requiring 24-gauge copper.

Q. WHAT OTHER INPUTS DID YOU NEED TO MODIFY IN ORDER TO IMPLEMENT EITHER OF THESE TWO POSSIBLE NETWORK ARCHITECTURES?

A. In addition to adjusting the maximum copper loop length (hard limit), the 24-to-26 gauge crossover, and the extended range line card crossover, we adjusted the soft loop length limit to equal the hard loop length limit and adjusted the number of lines between the soft loop length and the hard loop length to equal the maximum number of lines in an AA or CSA.

There is no engineering rationale for having a soft loop length limit in the model.

Q. CAN YOU PLEASE SUMMARIZE THE MODIFICATIONS YOU HAVE MADE TO THE BSTLM FOR EACH OF THE TWO POSSIBLE NETWORK CONFIGURATIONS DESCRIBED ABOVE?

A. Yes. The table in Exhibit JCD/BFP-11 summarizes BellSouth's inputs and our proposed modifications to these inputs. Thus, the two options for possible engineering criteria are: 1) switching from 26-gauge to 24-gauge cable at 13,000 feet with an absolute restriction of 17,600 feet over 24-gauge copper without the use of extended range line cards; and 2) switching to extended range line cards when the copper loop exceeds 13,000 feet with an absolute restriction of 16,800 feet without the use of 24-gauge copper. Both of these options apply both to AA and CSA design because they are not influenced by the maximum size of a RT cabinet.

As stated above, both configurations are consistent with current outside plant guidelines. Based on sensitivity runs we have conducted, the second option (*i.e.*, using extended range line cards above 13,000 feet with a maximum loop length of 16,800 feet on 26-gauge copper cable, with no 24-gauge copper cable) is the more economical choice. Therefore, we have used these inputs in our restatement of the BSTLM.

BellSouth's allocation of investment is incorrect

Q. WHY DOES THE BSTLM NEED TO ALLOCATE INVESTMENTS?

A. As stated above, the BSTLM is an extremely complex model, in part because it assigns particular services to particular customer locations. Specifically, the BSTLM classifies all customers into one of 44 different services. Each of these services requires some unique equipment (such as a particular type of DLC line card), and each also uses some shared equipment (such as the DLC common equipment and fiber feeder cable). Because it is service oriented, rather than element oriented, the BSTLM must allocate the shared equipment investment to the individual services that use this equipment.

Q. WHAT IS THE PROPER WAY TO ALLOCATE SHARED INVESTMENTS?

A. The very reason that allocations are necessary is because some investments are not directly associated with a specific underlying element in the network. Therefore, any such allocation is arbitrary. The important criteria in allocations is that they should be competitively neutral and fair.

Q. HOW DOES BELLSOUTH ALLOCATE THESE SHARED INVESTMENTS?

A. BellSouth allocates this equipment investment based on the DS0 equivalency of each service. Therefore, a HDSL loop will be allocated 24 times the shared equipment investment allocated by the BSTLM to a

normal POTS loop. Such an allocation arbitrarily shifts investment away from the POTS loop to the higher-bandwidth services, making advanced services excessively expensive for a CLEC to purchase as a UNE. This approach is particularly arbitrary because the DS0 capacity of a service has little relevance to the costs of DLC shared equipment or fiber feeder associated with a particular service.

Q. WHY IS THE DS0 CAPACITY AN INAPPROPRIATE ALLOCATION OF SHARED FACILITIES?

A. Simply put, we do not see any advantage to allocating investments based on DS0 equivalents, but we do see competitive ramifications. A dedicated DS1 service could be multiplexed down to 24 dedicated DS0s. However, this has nothing to do with the way DLC systems operate using concentration ratios (BellSouth agrees with the use of DLC concentration in this docket). A DLC channel bank slot can accept either a 4-line POTS card or a DS1 card. Capacity for the common cost components in a DLC RT cabinet really depend on the number of card slots in a channel bank, and the number of channel banks that can fit in a maximum size RT cabinet.

For example, a DLC RT cabinet operating at a concentration ratio of 4:1 would have to give up 4 POTS lines of capacity for each DS1 service card. Common equipment bandwidth is seldom an issue, since at a 4:1 concentration ratio, only 21 DS1s worth of bandwidth would be used to serve a maximum of 2016 POTS lines, thereby leaving 63 DS1s unused in

a typical OC3 system capable of 84 DS1s. Thus, most of the DLC investment is not driven by the DS0 requirements of the system, but by a fixed cost of the hardware that is unrelated to the bandwidth capacity, or is based on the number of channel banks in the system.

Also consider the cabinet size, which is the largest single fixed cost of DLC equipment. The cabinet size is not determined by the number of DS0s going into the system, but by the number of channel banks required. Again, there is no justification to allocate the DLC investments associated with the cabinet size based on the number of DS0 equivalencies of the DLC system.

Finally, the fiber feeder capacity is virtually limitless. The cost of the fiber feeder is not driven by any one particular item and is a fixed cost of service. Therefore, any allocation of this fiber feeder is completely arbitrary.

Q. WHAT ARE THE COMPETITIVE RAMIFICATIONS OF BELLSOUTH'S ALLOCATION METHOD?

A. We believe that BellSouth's allocation shifts costs from POTS to higher-bandwidth services. This, in turn, significantly increases the costs that competitors must pay to compete for these more advanced services. The way BellSouth has allocated shared investments requires that a competitor pay 24 times the fiber investment for an HDSL loop than for a POTS loop. Allocating investments in this fashion will essentially foreclose competition for these advances services.

As we stated before, the very nature of shared investments requires an arbitrary allocation. However, it is essential that these allocations be competitively neutral and fair.

Q. HOW SHOULD THE SHARED EQUIPMENT BE ALLOCATED TO THE UNDERLYING SERVICES?

A. There is no one correct answer. Further, this question raises other complexities in costing UNEs. For example, both POTS and ADSL services use a single copper pair to provide services. However, these two services have different purposes and different DS0 equivalencies. This does not lead to a conclusion that the HDSL service should be allocated more structure costs than the POTS service. Complex allocations of shared costs only causes administrative burdens and complicates the costing methodology. A methodology of allocating costs based on the equivalent number of copper pairs required to carry the service is intuitively more logical and offers an administratively feasible solution. Therefore, we believe that BellSouth's allocation technique should use the equivalent number of copper pairs used to provide the service rather than the DS0 equivalency of a service. Using that method, a two-pair copper loop, such as HDSL, would be allocated twice the shared investment of a single copper pair -- regardless of the services being carried over the copper pair. Another way to view this issue is that a "loop is a loop." There is no reason that this treatment should be different for DLC shared equipment and shared fiber facilities than it is for shared structure in the

copper portion of the loop. The end result of this "loop is a loop" approach is that the cost of voice grade services will increase slightly while the cost for advanced services will be reduced (compared with BellSouth's proposed rates).

Q. DOES YOUR APPROACH POTENTIALLY UNDERSTATE INVESTMENT?

A. Yes. As we understand the DLC calculations, the DS0 equivalents are not only used to allocate investments but are also used to size the DLC equipment. Therefore, by appropriately adjusting down the DS0 equivalents for the allocation we most likely have also adjusted down the capacity requirements of the DLC optical equipment. Unfortunately, BellSouth did not provide the information necessary for us to correct this problem within the BSTLM algorithms. Therefore, we were forced to make this adjustment by modifying the user-adjustable inputs, which was the only option available to us to correct this allocation problem.

Q. CAN YOU PLEASE SUMMARIZE YOUR RECOMMENDATION?

A. Yes. We recommend that this Commission adopt the "loop is a loop" approach based on the equivalent number of copper pairs required for each service. This approach is conceptually more appealing because it allows the same allocation techniques to be used in all portions of the network. Further, and most importantly, this approach is competitively neutral and is based on the concept of elements rather than services. Therefore, we have used this methodology in restating BellSouth's filing.

The BSTLM does not create the most efficient network routing within a CSA

Q. HOW DOES THE BSTLM POTENTIALLY OVERSTATE THE NETWORK FACILITIES PLACED?

A. The BSTLM methodology originates the minimum spanning road tree "MSRT" from the "root node," which is the road intersection closest to the central office. The MSRT then branches out in multiple directions to create the MSRT for the wire center. The map in Exhibit JCD/BFP-12 (from Mr. Stegeman's May 15, 2000 presentation) illustrates the MSRT from the central office. This map illustrates that the MSRT branches out in three directions from the root node (identified by the square in the center of the map) closest to the central office.

However, the BSTLM fails to employ this same methodology when branching out from DLC locations. Instead, it relies on the same MSRT used in developing the feeder network. In other words, the BSTLM does not reconstruct the MSRT based on DLC locations and may therefore artificially restrict the number of customers that can be served by a single DLC. This may occur because the MSRT will not split a route the same way that the MSRT will split at the central office. The maps in Exhibit JCD/BFP-13 illustrate this point. These two maps (edited from Mr. Stegeman's May 15, 2000 presentation) show the current design of a CSA based on the original MSRT produced by the BSTLM, and also show an alternative routing solution. The map on the left illustrates the circuitous routing (highlighted in a wide, dark line) that the BSTLM generates based

on the original MSRT from the central office location. The map on the right illustrates that allowing the MSRT to split after the DLC may allow more direct routing to many of the terminal locations. By not allowing this more direct routing methodology, the BSTLM artificially increases the loop lengths to many of these customers.

This circuitous routing has two practical implications. First, customers served by a given DLC may exceed a copper length threshold thereby triggering either 24-gauge copper or extended range line cards. Because of the cost impacts of these two triggers, the more efficient solution may be to use the more direct routing shown in the map on the right. Second, by precluding the more direct routing design, the BSTLM may fail to include as many customers on a DLC as may otherwise be possible -- thereby creating too many serving areas, too much feeder plant and too many expensive DLC equipment installations, each with its own common equipment costs. It is possible that (in the particular example chosen by the BSTLM developers) the more direct routing may not have created a more efficient network design; however, it is likely that the current methodology does overstate costs in many serving areas. Because BellSouth has not provided us the information necessary to produce network maps, we have been unable to evaluate a sample of maps that would indicate the extent of this overstatement.

Q. HAVE YOU BEEN ABLE TO CORRECT THE BSTLM TO ELIMINATE THIS CIRCUITOUS ROUTING?

A. No. To date, the BSTLM developers have refused to provide the parties with the underlying source code that would allow us to alter the algorithms and to determine the extent of the inefficiencies created by circuitous routing. Thus, the amount of plant the BSTLM creates is likely overstated, but we have been unable to quantify the extent of the overstatement.

The BSTLM places too much drop cable

Q. ARE THE DROP LENGTHS IN THE BSTLM APPROPRIATE?

A. No. The BSTLM drop calculations are based on assuming rectilinear routing from the drop/distribution terminal to the customer's NID. However, drop terminals typically run from the corner of the lot to the NID located on the customer's house. By assuming the drop terminal will extend to the center of the front of the lot and then run perpendicular to the front of the customer's house, the BSTLM consistently overstates this distance. The diagram in Exhibit JCD/BFP-14 illustrates the difference in these distances.

As the above diagrams show, significantly less cable is required when typical, real-world routing is used from the corner of the customer's lot to the NID. The BSTLM should be modified to reduce drop investment by 21.7 percent.

Q. HAVE YOU BEEN ABLE TO CORRECT THIS OVERSTATEMENT IN THE BSTLM?

A. Again, we have been unable to modify the BSTLM algorithms because BellSouth has refused to provide the source code in a format that would allow us to correct this problem. This Commission should require BellSouth to fix this obvious overstatement in the BSTLM.

<u>The BSCC distorts land and building investment</u>

Q. HOW DOES THE BSCC DEVELOP LAND AND BUILDING INVESTMENT?

A. The BSCC develops land and building investment by applying a factor to other investments in the BSCC, specifically DLC investment. This process assumes that required land and building investment is directly proportional to these underlying investments. However, this is not an appropriate way to develop investment because it assumes that two different types of plug-in cards, which are each exactly the same size, would require different amounts of land and building investment. Consider the following example:

*****Begin Proprietary*****

- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxx
- xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxx

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxx ***End Proprietary*** This makes no sense, because both cards are identical in size and therefore require identical land and building investment.

Q. HOW WOULD YOU PROPOSE TO FIX THIS PROBLEM?

A. The current problem is created by the way BSCC calculates land and building investment. Unfortunately, BellSouth has not provided us with a way to correct this error in the BSCC. This Commission should require BellSouth to use a more appropriate methodology for allocating land and building investment. Two possible options would be to calculate land and building investment based on equipment size or to apply a fixed land and building investment per line.

IV. RESULTS AND CONCLUSION

Q. WHAT ARE THE RESULTS OF YOUR ANALYSES?

A. The testimony of Jeffrey A. King discusses the pricing proposals based on our restatements of the BSTLM and the associated components of the BSCC. The table in Exhibit JCD/BFP-15 provides the results of our restatement for a few selected loop-related elements.

Q. WHY DO YOUR RESTATEMENTS SHOW SUCH SIGNIFICANT REDUCTIONS TO BELLSOUTH'S PROPOSED PRICES?

A. Simply put, the BSTLM, with the adjustments we identify above, estimates reasonable investment based on the underlying network. A

more appropriate question is "Why does BellSouth's filing of the BSTLM, which produces far less plant than the BCPM, yield costs similar to those from the BCPM." The answer is that BellSouth's filing of the BSTLM and the associated BSCC relies on a series of factors that artificially inflate investments.

As Exhibit JCD/BFP-3 in our testimony illustrates, the BSTLM produces 27% fewer route miles than the BCPM and requires less than half the number of DLCs as the BCPM. Therefore, one would expect that the BSTLM should produce significantly less investment, and costs, than the BCPM. Eliminating these factors and relying on the inputs that this Commission previously adopted in the USF proceeding produces much more reasonable results.

Q. WILL YOU PLEASE SUMMARIZE YOUR TESTIMONY?

A. Our testimony addresses several flaws in the BSTLM and the BSCC that need to be corrected. Specifically, we urge this Commission to:

- Use BellSouth's "Combo" scenario to reflect use of integrated digital loop carrier systems;
- Use the cost of capital recommended by Mr. Hirshleifer;
- Use the depreciation lives recommended by Mr. Majoros;
- Use the plant-specific factors recommended by Mr. Darnell;
- Use the expense development factors recommended by Mr. Darnell;
- Reject BellSouth's attempts to double-count the effects of inflation;
- Reject BellSouth's installation and engineering factors and rely on the Commission's prior unit-cost determinations;

- Reject BellSouth's installation and engineering factors for DLC equipment and rely on the more appropriate factors we have developed;

- Require BellSouth to modify the DLC algorithms to select the more efficient DLC vendor (Vendor 'A' or Vendor 'B') for each individual DLC unit;

- Adjust the loop length criteria to reflect the most efficient network design consistent with the Commission's decision in the USF proceeding;

- Reject BellSouth's misallocation of DLC common equipment investment and fiber facility investment based on DS0 capacity and treat a loop as a loop;

- Require BellSouth to evaluate and correct the routing algorithms to eliminate the circuitous routing that may result from the MSRT approach;

- Require BellSouth to correct the drop calculations and eliminate the perpendicular drop assumption embedded in the BSTLM;

- Require BellSouth to correct the land and building investment calculations.

Until all of the flaws we have identified above have been corrected in the BSTLM and the BSCC (including those within the model's algorithms that we have been unable to modify to date), the costs we develop in our restatement of BellSouth's models should be considered conservative and used as an upper limit for reasonable rates.

We believe that, once these flaws are corrected, the BSTLM can be used to calculate the costs of unbundled network elements for BellSouth-Florida.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

SUPPLEMENTAL REBUTTAL TESTIMONY OF

JOHN C. DONOVAN

AND

BRIAN F. PITKIN

ON BEHALF OF AT&T COMMUNICATIONS OF THE SOUTHERN STATES, INC.

and

MCI WORLDCOM

DOCKET NO. 990649-TP

AUGUST 28, 2000

I. INTRODUCTION

Q. PLEASE STATE YOUR NAMES AND BUSINESS ADDRESSES.

A. My name is John C. Donovan. I am President of Telecom Visions, Inc., a telecommunications consulting company. My business address is 11 Osborne Road, Garden City, NY 11530.

My name is Brian F. Pitkin. I am a Director of Klick, Kent & Allen, Inc. ("KKA"), an economic and financial consulting firm. KKA, a wholly owned subsidiary of FTI Consulting, Inc., is located at 66 Canal Center Plaza, Suite 670, Alexandria, Virginia 22314.

Q. ARE YOU THE SAME JOHN C. DONOVAN AND BRIAN F. PITKIN THAT FILED REBUTTAL TESTIMONY IN THIS PROCEEDING ON JULY 31, 2000?

A. Yes, we are.

Q. WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL REBUTTAL TESTIMONY?

A. The purpose of our Supplemental Rebuttal testimony is to address those issues that have arisen "due to BellSouth's changes to its cost studies." (Order Modifying Procedure, Docket No. 990649-TP, Order No. PSC-00-1335-PCO-TP, issued July 24, 2000) As such, we have limited our Supplemental Rebuttal testimony to address BellSouth's Rebuttal testimony only to the extent it refers to model modifications that were purportedly based a meeting we had with BellSouth on July 7, 2000. Our testimony, however, should not be interpreted as agreeing with any of BellSouth's Rebuttal testimony that we do not specifically address in this testimony.

Q. HOW IS YOUR TESTIMONY ORGANIZED?

A. In Section II, we describe how BellSouth mislead the Commission and the parties into believing that its revised cost studies are primarily based on discussions that James Stegeman and BellSouth employees had during a July 7, 2000 meeting with Brian Pitkin, even though only *one* of Mr. Pitkin's recommendations that would affect costs resulted in a BellSouth modification. In Section III, we address BellSouth's responses to each of

the modifications proposed in our meeting that were the purported basis for BellSouth's revised filings. In Section IV, we describe why the actions of BellSouth have resulted in our not yet being able to restate BellSouth's cost studies for this filing. In Section V, we summarize our testimony and make certain recommendations to this Commission.

II. NATURE OF BELLSOUTH'S MODIFICATIONS

Q. DID BRIAN PITKIN MEET WITH BELLSOUTH TO DISCUSS CHANGES TO BELLSOUTH'S MODEL?

A. Yes. On July 7, 2000 Brian Pitkin met with Daonne Caldwell, Bob McKight and Jim Stegeman to discuss changes we would like to see implemented in the BellSouth Telecommunications Loop Model© ("BSTLM") and the BellSouth Cost Calculator© ("BSCC").

Q. WHAT WAS THE PURPOSE OF THE JULY 7TH MEETING?

A. The purpose of this meeting was to address our concerns with the version of the model that was filed in Florida, and to work on alleviating these issues before another version was filed in other states in BellSouth's region. It is important to understand that the nature of the meeting was to identify potential changes that would impact BellSouth's filing of the BSTLM on a going forward basis to eliminate some areas of dispute in the future.

Q. WHAT ISSUES WERE ADDRESSED AT THIS MEETING?

A. During this meeting, twenty issues with the BSTLM and the BSCC were identified by Mr. Pitkin. Some of those issues impacted the ability to run the model, some addressed the flexibility of the model, some related to the ease of use of the model, and five issues had potential cost implications.

Q. WHAT ARE THE FIVE COST-RELATED ISSUES IDENTIFIED AT THE MEETING?

A. The five issues[1] described at the meeting that would impact costs are:

- Drop Lengths (described on pages 42 and 43 of our Rebuttal testimony);
- Minimum Spanning Road Tree ("MSRT") Routing from the Digital Loop Carrier ("DLC") (described on pages 40 through 42 of our Rebuttal testimony);
- Land and Building Factors (described on pages 43 and 44 of our Rebuttal testimony);
- DLC and SONET Vendor Mix (described on pages 28 through 30 of our Rebuttal testimony); and
- Allocation of Shared Facilities - DS0 Equivalents (described on pages 35 through 39 of our Rebuttal testimony).

[1] BellSouth also opened up the model to allow the user to see and adjust the structure inputs although BellSouth's revised filing did not use this additional functionality. We have not had sufficient time to examine these inputs and modify them for our Supplemental Rebuttal testimony. Therefore, this modification did not have any cost impact on either BellSouth's filing or our Supplemental Rebuttal filing.

In short, the only issue raised at the meeting that BellSouth has addressed in its revised filing is the issue of drop lengths.

Q. DO BELLSOUTH'S REVISED COST STUDIES ADDRESS YOUR CONCERNS?

A. Absolutely not. Although we were certainly interested in having BellSouth increase the speed of the BSTLM, reduce the likelihood of BSTLM and BSCC software crashes, improve the reporting and operating of the BSTLM and the BSCC, and enhance the flexibility of the models in future filings, these certainly are not the critical issues impacting this proceeding in Florida, because we have already endured such problems while preparing our original Rebuttal filing. Instead, BellSouth has only implemented *one* of the changes we recommended that affects the cost results of its original filing and we do not believe that change was implemented correctly. BellSouth also made other modifications that may have involved significant amounts of time and resources on its part; however, our criticism is that BellSouth chose not to implement the modifications that were likely to impact costs. It is clear to us that the more important adjustments were those that could impact the cost and price of UNEs.

The vast majority of BellSouth's revisions are a blatant attempt to slip in last-minute modifications in this proceeding. In fact, the majority of BellSouth's substantive revisions are *not* modifications to the model at all -- they are modifications to *inputs* used by the model. AT&T and

WorldCom would have objected to this late submission much earlier had we not been mislead by BellSouth's claims that the new cost studies were prompted by our July 7, 2000 meeting. In addition, BellSouth's July 26, 2000 filing on the status of Cost Study Revisions indicated that they were evaluating the changes we described above. Specifically, BellSouth included the issues of 1) drop design, 2) increased DLC and SONET vendor mix selection flexibility, and 3) increased allocation options for DLC common equipment and fiber. These are the only issues where we will suggest specific modifications to BellSouth's revised filing in light of BellSouth's failure to fulfill these corrections.

III. SPECIFIC MODIFICATIONS

Q. CAN YOU PLEASE EXPLAIN BELLSOUTH'S RESPONSE TO EACH OF THE MODIFICATIONS YOU SUGGESTED?

A. Yes. In the sections below, we will address all five of the changes that we proposed to BellSouth regarding the BSTLM and the BSCC.

Q. WHAT WAS BELLSOUTH'S RESPONSE TO YOUR SUGGESTION REGARDING DROP LENGTHS IN THE BSTLM?

A. This is the one modification that BellSouth actually ~~attempted to make~~ made based on our suggestions. Mr. Stegeman states, "the user is now able to select the method used to route the drop. By selecting the appropriate value for the input, the drop is either run rectilinearly or at an angle from the corner of the lot. BellSouth chose to use the angled drop approach in

the August 16th, 2000 filing." (Stegeman Rebuttal at 3) Mr. Stegeman then continues to state "the realized impact of the drop routing change is minimal as it only changes costs by less than a penny a month." (Stegeman Rebuttal at 4)

Q. DO YOU AGREE WITH BELLSOUTH'S IMPLEMENTATION OF THIS CORRECTION?

A. No. Mr. Stegeman's clearly states, "[i]n reality, the model's approach to DTBT [*Drop Terminal Block Terminal*] placements results in some DTs [*Drop Terminals*] being placed directly in front of a customer's location." (Stegeman Rebuttal at 4) Drops are almost never placed directly in front of a customer's house. Mr. Stegeman's comment that "[i]n reality, the model's approach" is certainly not the same as saying "in reality, an engineer's approach." Thus, BellSouth's correction to the error we identified in our meeting does not adequately address the problem. The BSTLM should always assume that the drop is placed at the corner of a customer's lot.

Further, Mr. Stegeman states, "some DTs [are] placed so that the drop route must run in front of other customer lots" and uses this as a basis for refuting our contention that the drop distance is overstated by 21.7 percent. However, our analysis clearly includes the assumption that the average drop does indeed run in front of other customer lots (see Exhibit No. ____ (JCD/BFP-14) to our Rebuttal testimony). If we did not make

this assumption, we would have recommended a drop distance reduction of 28.6 percent.

Q. WHAT IMPACT DID BELLSOUTH'S CORRECTION ACTUALLY HAVE ON THE DROP DISTANCE?

A. The BSTLM originally filed by BellSouth produced an average drop distance of 115 feet based on Microsoft Access queries provided to us by BellSouth. Using the same queries, BellSouth's new drop distance averages 98 feet -- a 15.0 percent reduction. It is troubling that Mr. Stegeman views a 15.0 percent reduction in the average drop distance as minimal, and it is equally troubling that BellSouth's cost studies only result in a one penny reduction for this correction.

Q. WHAT SHOULD THIS COMMISSION DO TO CORRECT THIS PROBLEM?

A. It is unfortunate that BellSouth did not implement this adjustment correctly as we had hoped it would. It is also unfortunate that BellSouth has refused to provide the parties with a version of the source code that would allow the user to make these adjustments themselves. However, this Commission and the parties are left with no other alternative than to make these adjustments as best we can. Therefore, we have implemented an adjustment to BellSouth's "InvestLogic.xls" file to manually reduce drop investment by 21.7 percent based on BellSouth's original algorithms. We see no need to use BellSouth's flawed methodology as the starting point for our adjustment, particularly in light of the minimal impact Mr.

Stegeman refers to in his testimony. The specific adjustments to this file are described in Exhibit No. ____ (JCD/BFP-16).

Q. WHAT WAS BELLSOUTH'S RESPONSE TO YOUR SUGGESTION REGARDING THE MSRT ROUTING FROM THE DLC?

A. Mr. Stegeman merely asserts that our criticisms stem from the fact that the original documentation was not clear. However, Mr. Stegeman's updated documentation actually helps to illustrate our point and, therefore, our criticisms remain valid. Mr. Stegeman's updated documentation states "[i]t is important to note that the location of the source node plays a significant part in the resulting configuration of the MSRT. Using the algorithm to connect the same set of points to two different source nodes may produce two different MSRTs." (Stegeman Rebuttal at 12)

Q. HOW DOES THIS TESTIMONY HELP TO ILLUSTRATE YOUR CONCERN ABOUT THE WAY THE BSTLM IMPLEMENTS THE MSRT ALGORITHMS?

A. As our Rebuttal testimony discusses, the MSRT algorithms are likely to lead to inefficient network design precisely because the BSTLM does not use different points for the MRST source nodes. By relying on the switch as the source node for carrier serving area ("CSA") construction, the BSTLM ignores the critical factor of routing the customers back to the DLC location and instead uses the switch as a proxy for this calculation. In other words, the customers that are served by a given DLC do not

follow the true MSRT path back to the DLC but follow a proxy MSRT path back to the switch. Mr. Stegeman acknowledges that the current implementation would likely produce a different MSRT solution than if the source nodes for each CSA were set at the DLC, as we believe is the appropriate methodology.

Q. WHAT SHOULD THIS COMMISSION DO TO CORRECT THIS PROBLEM?

A. Again, this Commission and the parties are not able to adjust the BSTLM to correct this problem. While we cannot recommend a specific adjustment to the BSTLM to correct this problem, we encourage the Commission to recognize that network requirements of the BSTLM are not optimal and are therefore likely to result in overstated costs. Therefore, this Commission should recognize that the BSTLM results are likely too high and therefore should be considered the maximum costs of constructing the network and are not truly the least-cost solution.

Q. WHAT WAS BELLSOUTH'S RESPONSE TO YOUR SUGGESTION REGARDING THE LAND AND BUILDING FACTORS USED IN THE BSCC?

A. Ms. Caldwell appears to generally agree with our arguments by stating "two plug-in cards of the same size should require relatively the same amount of central office-related land and building space." (Caldwell Rebuttal at 42) Ms. Caldwell then dismisses our criticism by stating, "there is no feasible way to measure the exact size of every conceivable

type of plug-in card and other central office-related equipment." (Caldwell Rebuttal at 42 and 43) She further continues to argue that the "land and building loading factors potentially overstate the costs for 'high cost/small size' central office equipment", and surprisingly claims that this is offset because "they also potentially understate the costs for 'low cost/large size' central office equipment (a point ignored by Mr. Donovan and Mr. Pitkin)." (Caldwell Rebuttal at 43)

Q. DOES MS. CALDWELL'S CRITICISM ADEQUATELY ADDRESS THE CONCERNS YOU EXPRESSED IN YOUR MEETING?

A. No. The exact point we raised in our meeting is the same point we raised in our Rebuttal testimony, which is that the factor approach overstates the costs of some more advanced services and understates the costs of basic local telephone service, because advanced services generally involve expensive high density equipment. Neither our suggestion at the meeting nor our Rebuttal testimony suggests that the total land and building cost is inappropriate, but that the costs are inappropriately assigned. While we understand Ms. Caldwell's concern that "there is no feasible way to measure the exact size of every conceivable type of plug-in card and other central office-related equipment," (Caldwell Rebuttal at 43) we simply requested that BellSouth provide the user a way to apply land and building costs based *either* on the equipment size *or* on the cost per-line.

Again, we did not request that BellSouth modify its original position on this issue, but merely requested that BellSouth provide the functionality for the user to have the flexibility to apply land and building costs in a more appropriate fashion to avoid the "shifting" of costs that Ms. Caldwell admits in her Rebuttal testimony. Ms. Caldwell's argument that the overstatements and understatements offset each other are not valid given that the overstatements occur for a subset of UNEs and the understatements occur for a different subset of UNEs.

Q. WHAT SHOULD THIS COMMISSION DO TO CORRECT THIS PROBLEM?

A. Again, this Commission and the parties are not able to adjust the BSCC to correct this problem. In addition, we have not been able to find a satisfactory solution to implement a correction to this problem. We recommend that this Commission recognize that the land and building costs of advanced services are overstated and the land and building costs of basic service are understated.

Q. WHAT WAS BELLSOUTH'S RESPONSE TO YOUR SUGGESTION REGARDING THE DLC AND SONET EQUIPMENT VENDOR MIX?

A. Mr. Stegeman simply dismisses our concerns about the DLC selection criteria without validation. This adjustment appeared to be fairly easy to fix and one that we expected BellSouth to incorporate in its revised filing. BellSouth's refusal to make this adjustment is particularly perplexing

because Mr. Stegeman admits that the "current DLC costing approach in the BSTLM uses a melded cost at each DLC location. While this approach does not reflect the reality that a single vendor is typically used at each location, it does represent the true proportion of vendor equipment installed in the state of Florida." (Stegeman Rebuttal at 5) He then explains BellSouth's refusal to implement our suggestion because it "may be too simplistic and does not reflect the real proportion of vendor equipment installed in Florida by BST, nor the engineering rationale beyond cost." (Stegeman Rebuttal at 5 and 6)

Q. IS MR. STEGEMAN'S EXPLANATION VALID?

A. Absolutely not. As Mr. Stegeman is well aware, the BSTLM constructs a network from scratch. BellSouth elected to submit this cost proxy model and elected to continue with this proceeding using a model that purports to use an efficient (forward-looking) design. The model is not intended to replicate the exact facilities that BellSouth currently has in place; however, the model should use the correct, efficient technology required at each individual location. There is no justification for using a melded cost when BellSouth does not use a melded DLC at any location. Further, Mr. Stegeman admits that the "DLC vendor selection is not only a function of material cost, but also a function of installation costs, maintenance costs, and efficient deployment criteria." (Stegeman Rebuttal at 6)

The approach we identified in our meeting and in our Rebuttal testimony does address all of these issues. First, because BellSouth uses factors for all installation costs, the lower material costs will result in the lower installation costs. Second, the maintenance costs for each technology will be similar because maintenance costs are based on ARMIS (or FRC) accounts. Therefore, our proposal of using the lower-cost DLC equipment at each location fulfills these requirements set forth by Mr. Stegeman. Finally, while we are not aware of any other "efficient deployment criteria" that Mr. Stegeman has in mind, BellSouth uses both vendors and each one should satisfy BellSouth's standards for deployment. Therefore, the correct DLC technology should be based on the least-cost solution at each individual DLC location.

Q. HOW WOULD YOU PROPOSE THE COMMISSION CORRECT THIS PROBLEM?

A. As we stated earlier, we fully expected BellSouth to implement this simple correction based on its representations. Thus, we did not attempt to modify the BSTLM to correct this error in our rebuttal testimony. Although BellSouth failed to implement this correction, which we were led to believe was going to happen, BellSouth should not be allowed to continue with this clear overstatement of costs. Therefore, we have modified the BSTLM "InvestLogic.xls" file to choose the more efficient DLC vendor at each location. The specific adjustments to this file are described in Exhibit No. ____ (JCD/BFP-17).

Q. WHAT WAS BELLSOUTH'S RESPONSE TO YOUR SUGGESTION REGARDING THE ALLOCATION OF SHARED FACILITIES?

A. BellSouth again failed to correct this problem that we were led to believe would be fixed in its revised filing. Instead, BellSouth simply chose to ignore this problem by citing our acknowledgement that "by appropriately adjusting down the DS0 equivalents for the allocation we most likely have also adjusted down the capacity requirements of the DLC optical equipment." (Donovan/Pitkin Rebuttal at 39) Thus, BellSouth appears to be betting that this Commission will simply accept its allocation methodology that artificially inflates UNE costs for advanced services because a bias might result.

Q. IS MR. STEGEMAN'S POSITION CORRECT?

A. No. Ironically, BellSouth asserts that a bias is created by potentially underbuilding the network but has no problem advocating a methodology that introduces a bias that raises the cost of advanced service UNEs and impedes competition for these advanced service offerings to the consumers of Florida. This Commission must simply determine which approach is more acceptable. In either case, the bias inherent in BellSouth's methodology and our proposed correction primarily impact the advanced service UNEs. Simply put, under either scenario, the model will produce the correct investment associated with basic service. Therefore, this Commission's decision impacts the prices for more

advanced services and the level of competition to provide those services in Florida.

Q. IS MR. STEGEMAN'S POSITION CONSISTENT WITH HIS POSITION IN OTHER PROCEEDINGS?

A. No. BellSouth's refusal to allocate investments based on the number of loops is especially disconcerting because that is exactly what BellSouth is proposing in the Georgia Universal Service Fund proceeding. Specifically, Mr. Stegeman's testimony in that proceeding advocates adjusting "ARMIS inputs to levels that reflect BST's actual special access pair equivalents, rather than special access derived channel equivalents." (Direct Testimony of Mr. James Stegeman on Behalf of BellSouth Telecommunications, Inc.; before the Georgia Public Service Commission, Docket No. 5825-U, August 1, 2000) In effect, Mr. Stegeman's argument in the Georgia proceeding directly conflicts with his proposal in this proceeding, because he is adjusting the ARMIS line counts to reflect pairs rather than DS0 equivalents. Thus, his methodology in Georgia will allocate all common DLC investment and all fiber investment based on copper pairs instead of DS0 capacity. We generally agree with the adjustment Mr. Stegeman is making in Georgia and believe that this is also the correct approach that should be taken in Florida -- allocating investments based on the number of copper pairs required to provide the service.

Q. SHOULD THIS COMMISSION ACCEPT MR. STEGEMAN'S POSITION?

A. No. BellSouth gambled that this Commission will accept its original proposal rather than give the user the flexibility to allocate investments in a more reasonable fashion. This Commission should not reward BellSouth for its decision and should accept the position we advocate in our Rebuttal testimony. Any potential bias created by a reduction in the costs of advanced services is a better alternative than a bias that artificially inflates the costs of advanced services and impeding competitive alternatives for providing such services -- especially since BellSouth had the opportunity to correct this problem but knowingly chose not to implement it.

IV. STATUS OF MODIFICATIONS AND REVISED RESULTS

Q. HAVE YOU BEEN ABLE TO RESTATE BELLSOUTH'S LATEST COST STUDIES TO REFLECT THE CHANGES YOU DESCRIBED ABOVE?

A. Not at this time. We are working to file our revised results based on BellSouth's new submission. However, this process still takes some time with BellSouth's models. Specifically, we need to re-run several sensitivities based on BellSouth's new submission.

Q. WHY DO YOU NEED TO PERFORM SENSITIVITY RUNS FOR YOUR REVISED FILING?

A. As Ms. Caldwell correctly points out in her Rebuttal testimony "BellSouth inadvertently set all extended range line card costs equal to the normal line card cost." (Caldwell Rebuttal at 24) These inputs impacted our analysis of the appropriate loop lengths and mix of loop technologies that would be required in the BSTLM. Our Rebuttal testimony states, "[t]here are two sets of inputs that could be used in determining the network architecture. The most appropriate architecture should be the solution that results in the lower-cost network design." (Donovan/Pitkin Rebuttal at 32) Our testimony then states "[b]ased on sensitivity runs we have conducted, the second option (i.e., using extended range line cards above 13,000 feet with a maximum loop length of 16,800 feet on 26-gauge copper cable, with no 24-gauge copper cable) is the more economical choice." (Donovan/Pitkin Rebuttal at 32) BellSouth's new inputs, however, require that we re-run our sensitivity analyses to determine which is the more appropriate solution. We have not yet completed these runs. However, we will perform these sensitivity runs based on the two network architectures described in our Rebuttal testimony and use the more appropriate solution in our restatement of BellSouth's costs.

Q. ARE YOU CONCERNED THAT BELLSOUTH WILL NOT HAVE AMPLE OPPORTUNITY TO EVALUATE THE CHANGES YOU

ARE GOING TO MAKE IN YOUR REVISED RESULTS OF ITS MODELS?

A. No. We have identified every change we are going to make to BellSouth's filing. In short, these changes are the same as we made in our initial filing with the following exceptions:

- We are going to adjust the drop calculations in the BSTLM by adjusting down the resulting costs by 21.7 percent;
- We are going to adjust the DLC vendor calculations to reflect the standard engineering practice of selecting the more appropriate single vendor at each DLC location; and
- We will use the more appropriate loop length criteria in our revised filing.

Thus, each and every adjustment we are going to make has been fully explained and articulated in this Supplemental Rebuttal testimony. The only piece of information that is missing are the results of our runs that we will provide as soon as they are available.

IV. CONCLUSION

Q. CAN YOU PLEASE SUMMARIZE YOUR VIEWS OF BELLSOUTH'S REVISED COST STUDY FILING?

A. Yes. BellSouth's revised cost studies do not reflect the changes BellSouth implied would be incorporated in its revised filing. As such, we were severely mislead as to the adjustments BellSouth was going to make based

on BellSouth's representations. We have limited our areas of focus to those issues that were raised in our meeting with BellSouth that actually impact costs. From our standpoint, BellSouth lured this Commission into allowing revised cost studies based on its assurance that the revisions were to address the issues raised at our meeting with BellSouth. With one minor exception, BellSouth did not address those issues but instead used its refiling opportunity as an excuse to substantially modify its inputs, non-recurring costs, and other cost studies which were not issues discussed during our meeting.

Q. HOW WOULD YOU RECOMMEND THIS COMMISSION HANDLE BELLSOUTH'S REVISED FILING?

A. We recommend that this Commission either reject all evidence submitted by BellSouth in its revised filing or allow us to make the corrections identified in this testimony to address BellSouth's revised filings and to address those issues we were mislead into believing would be corrected in this revised filing.

Q. DOES THIS CONCLUDE YOUR SUPPLEMENTAL REBUTTAL TESTIMONY?

A. Yes.

BY MR. LAMOUREUX:

Q And with that, do you have summaries of your testimony?

A (By Mr. Donovan) Yes, we do.

Q Would you give your summary now, please?

A (By Mr. Donovan) Yes.

Good morning, Commissioners. My name is John Donovan, and I'm an independent consultant appearing on behalf of AT&T and Worldcom.

I have over 30 years of hands-on experience in planning, engineering, and building outside plant. I've done repair, I've done detailed engineering. I've also developed methods to take time in motion studies and convert them into total costs of installed outside plant for the entire bell system.

In addition to doing it with my own hands, I've also written the methods and procedures that are used by major regional bell operating companies. And I've served as an adjunct professor of telecommunications for New York City Technical College. I offer my help to this Commission based on real world hands-on experience.

Inputs are very important. My clients, AT&T and Worldcom, have decided to litigate the minimal number of inputs. They've made the technical decision to accept most of the input values that this Commission already

decided in the USF case as already being examined and decided.

I worked with Mr. Pitkin on inputs. He's the model person. I know what it takes to engineer, place and splice. And, I think, the values previously adopted by this Commission are, frankly, conservatively high, a bit higher than I would pick, but they're workable.

BellSouth has made the technical decision to fight for each input; material multipliers and inflation, do that anew, all the things that they seemed to have lost in the USF proceeding. I will discuss just two input issues that are especially troublesome to me from a technical perspective. Those two issues are the use of material multipliers and DSO equivalents.

First is in-place material multipliers. BellSouth's excuse for using in-place material multipliers rests on the claim that they're not so bad, because as Ms. Caldwell admits, the in-place material multipliers distort the cost of big cables with lots of pairs, but it's not bad, because the model doesn't place that many cables with lots of pairs.

Well, I think, really that's a heck of a thing to do, especially when you can fix it by just setting the material multiplier to 1.0 and putting the right installed cost directly into the model for each one of the cable

types and pair sizes.

This Commission already examined this before in the USF case, and we're sponsoring this Commission's cable input cost values. For example, I produced the deposition exhibit that clearly and simply shows that a 400-pair cable takes 20% more labor than a 25-pair cable, not 8 or 9 times or 800 to 900% more. This is important. It has a large effect.

I believe that this Commission should dig deeply into the in-place material multipliers carefully. It makes no difference to accept what BellSouth admits may be okay on average, but it's very wrong by cable size and by geographic area.

The same in-place material multiplier issue applies to digital loop carrier. BellSouth's in-place DLC factor results in thousands and thousands of hours to engineer and to install a box that's been preassembled at the factory, so that it can be dropped into place in the field. And I quote, in my direct testimony, an item directly from the manufacturer itself that says this is how they build the cabinets preassembled.

Now, switching to DSO equivalents. Mr. Stegeman said yesterday that the size of a DLC remote terminal is driven by the number of DSOs. That is incorrect on a physical and a technical basis, and I address this in my

rebuttal testimony.

The size of the remote terminal box depends on the number of slots in the common equipment channel bank assembly. There are 56 slots in each channel bank assembly.

And the neat thing about this equipment is that I can stick either a POTS card in that slot or I can stick a DS1 card in that slot. It makes no sense to charge an ALEC 24 times the POTS price for common equipment and structure when the only difference is which card I stick in that slot.

The same applies -- the same logic applies to fiber, because fiber, essentially, Commissioners, has virtually unlimited bandwidth. As for the structure, the fiber cable's only a half an inch thick, about as thick as my thumb. Whether it contains 12 fibers or whether it contains 216 fibers, the cable is very small. It doesn't take any difference in structure whatsoever, because the cable is really very light and very thin.

Two extra items. I just want this Commission to know that you don't have to run an integrated DLC through a digital cross connect or DACS system to unbundle a loop. And second, you can put two vendors on a ring so that you can put a low-density DLC at a small line count location, and you can put a high DLC -- a high-count DLC at a

high-density location, not homogenizing both the high and low-density cabinets as BellSouth claims is necessary in their model.

I'd now like to introduce Brian Pitkin.

A (By Mr. Pitkin) Thank you. Good morning. My name is Brian Pitkin. And my job is, essentially, working with cost models.

As all of you are aware and likely believe, AT&T and Worldcom have decided to use BellSouth's cost models in this proceeding instead of sponsoring a competing cost model. Our testimony addresses our concerns with BellSouth's model, but for the purposes of this opening statement, I'm going to focus on just a few issues, loop investments resulting from the model, model inputs and assumptions, and the allocation of investment.

Let me start out by making a couple of observations about the model results. BellSouth appears proud of the fact that the BSTLM results in similar, if not higher, investments than the BCPM.

I am at a complete loss as to how BellSouth can sponsor these results, considering that the BSTLM constructs 3/4 of the route miles of the BCPM and less than half the number of DLCs. Given these facts, BellSouth's results simply do not make any sense. This troubles me, and I hope this troubles the Commission as

well.

How does this happen? How can a model that requires much less equipment produce increased investment? Well, BellSouth uses a series of loadings to artificially overstate the results, including inflation factors and in-plant loadings. All I'm going to say about BellSouth's double count of inflation is that it's incorrect. This Commission rejected it in the USF proceeding, and this Commission should reject it again.

As far as in-plant factors, which are simply multipliers to material investment and are also called linear loading factors, they were also previously rejected by this Commission and should be rejected again.

We heard Ms. Caldwell testify the distortion may occur by the use of linear loading factors. However, she asserts that these distortions, which result in installation costs 8 or 9 times which they should be for larger cable sizes, average out in the end.

It's essential to recognize that in this proceeding we're talking about deaveraged rates. Thus, any arguments about these distortions averaging out in the end are invalid and inappropriate. These distortions will result in inaccurate deaveraged costs and distort the cost-based rates.

In other words, loading factor approach will

yield wrong rates for every single deaveraged UNE. Thus, BellSouth's use of these loading factors does not reflect BellSouth's forward-looking installed material costs, because the distortions that Ms. Caldwell recognizes and this approach eliminates any possibility that BellSouth's proposed inputs reflect BellSouth's forward-looking costs for each type of material and, therefore, cannot reflect BellSouth's cost in each zone.

If we can fix this problem, we should. The model already has the capability to eliminate this distortion, but BellSouth has chosen not to use this functionality. Using this Commission's inputs that were determined in the USF order fixes this problem. Linear loading factors were not appropriate then, and they are not appropriate now.

It is also, important to recognize the purpose of the act, which is promoting competition, would be violated if the ILEC were allowed to recover inefficient practices or gold-plating of the network. We urge this Commission to promote competition by using realistic inputs that are not based on inaccurate loading factors; inputs such as those adopted by the Commission in a USF proceeding, inputs that have been scrutinized by the parties and Staff and considered by this Commission in the USF order. They are also the only independent inputs

offered in this proceeding.

In short, using reasonably-efficient inputs and assumptions that are achievable by any operator in Florida, such as BellSouth and Sprint, is the appropriate criteria. In other words, the inputs decided by this Commission in the USF proceeding reflect reasonable assumptions about what is achievable by any operator in Florida, including BellSouth.

In addition, the inputs ordered by this Commission in the USF order reflect installed investments and relieves this Commission of having to rely on linear loading factors that admittedly distort costs, especially when we're talking about deaveraged UNEs and deaveraging the rates. And also could severely distort the costs in certain scenarios that BellSouth has put forth in this proceeding.

Finally, I want to -- the final issue I want to address is a method BellSouth uses to allocate common equipment and investment and structure investment to the underlying services.

BellSouth, in this proceeding, uses a methodology of allocating investments based on DSO equivalents or the capacity of certain services. This methodology lowers the investment associated with POTS services and increases the investment associated with

advanced services.

It's important to note that BellSouth used the exact opposite methodology in the USF proceeding, thereby, raising the investment associated with POTS services and lowering the investment associated with advanced services, which are not -- and those investments are not subject to universal service obligations.

They also just recently advocated allocating investments on a per-pair basis in the Georgia USF proceeding, a methodology that we support and one that is directly at odds with what BellSouth is proposing here in this proceeding.

First, recognize that Mr. Stegeman admitted that any allocation of fiber investment and the associated structure is arbitrary. Given this, consistency in the USF methodology and the methodology used in this proceeding is the most important consideration.

We must ask ourselves, why is BellSouth advocating one methodology in USF proceedings allocating based on pairs and another methodology in UNE proceedings allocating based on DSOs?

The answers that BellSouth is maximizing the investment POTS services in USF proceedings to increase the universal service requirements and maximizing the investment in advanced services in this proceeding, which

will have the impact of limiting competition for those services. This Commission should not allow BellSouth to manipulate the cost studies from proceeding to proceeding to maximize their interests in each issue.

This Commission must use a consistent methodology for both USF and UNEs. It's important to recognize that this is a huge cost issue, largely due to the relative amounts of POTS services and advanced services.

As Mr. Stegeman states in his testimony, these advanced services comprise less than 1% of the total services. This means that a small shift of investment from POTS services to advanced services has an enormous impact on the cost for advanced services, which are separate UNEs and separate rate elements in this proceeding.

Again, the argument that these costs average out doesn't -- in the end, doesn't apply, because we're talking about separate rates for separate UNEs that are being shifted. We are aware that BellSouth has raised a concern of a bias in results that we proposed. As Mr. Stegeman confirmed on the stand, the extent of a bias is based on what this Commission considers to be the correct starting point.

If this Commission, as we believe it should,

continues to use its previously-determined methodology of allocating investment, based on the number of pairs, Mr. Stegeman's methodology significantly biases results by 18% for POTS services and 885% for advanced services for those portions of the shared investment that are being allocated.

It seems pretty clear that BellSouth's methodology biases results much more than 3% Mr. Stegeman asserts is inherent in our methodology. It should also be noted that BellSouth could have implemented a correction for this bias by making our suggested corrections to the BSTLM, but it chose not to.

To summarize, we urge this Commission to use the methodology adopted in the USF proceeding, which is allocating investment based on the number of pairs to be consistent with its prior determination and allow competition for advanced services.

In conclusion, this Commission should reject the use of inflation factors and linear loading factors that they have already rejected in the USF proceeding and, instead, rely on the inputs that were scrutinized in that proceeding and adopted by this Commission.

In addition, the Commission should use the same allocation of investment as used in the USF proceeding and not allow BellSouth to distort the system by using

opposing methodologies to both maximize USF support and inflate the cost of advanced services.

Finally, this Commission should seriously consider how a model that builds substantially less facilities than the BCPM can possibly result in similar investment. Thank you.

MR. LAMOUREUX: The witnesses are available for cross examination.

CHAIRMAN DEASON: Mr. McGlothlin, any questions? I'm going to work down this way. Questions?

MR. McGLOTHLIN: No, sir.

MS. BOONE: No.

MR. FONS: No.

MR. ROSS: Thank you, Mr. Chairman.

CROSS EXAMINATION

BY MR. ROSS:

Q Good morning, gentlemen. Mr. Pitkin, I'd like to start with you and the issue you raised about the allocation based on DSO or lines. And I believe you, in your summary, accused BellSouth of being inconsistent in this case and in a universal service proceeding in Georgia; is that correct?

A (By Mr. Pitkin) Yes, and inconsistent with what was previously adopted by this Commission.

Q Would you agree with me that the model that

BellSouth is using in this proceeding is the BSTLM?

A Yes, I'll agree with that.

Q Would you agree with me that the model that it has issued in the universal service proceeding in Georgia is the FCC HCPM model?

A It's the synthesis model, yes.

Q You discussed the test -- well, let me ask it this way.

To your knowledge, do the models deal with the ability to allocate shared facilities differently?

A Well, they're slightly different, but the concepts are very similar. You have a certain amount of investment in equipment and in structure. And the issue is how that investment is going to be allocated. Well, they are somewhat different in the way they construct these.

In the proceeding in Georgia, which is the universal service proceeding, they are allocating the cost of the DS1 type facilities, the higher-capacity facilities, based on the number of pairs, thereby, putting more costs on the POTS service, which will increase the universal service fund. That's exactly the opposite of the methodology they're using here to allocate the investments in those shared services.

Q My question was about the model, Mr. Pitkin.

The HCPM or synthesis model allocates shared costs based on lines; does it not?

A It depends what inputs you use. It allocates the shared cost either based on DSOs, if those are used as inputs to the model or based on the number of lines, if those are used into the model.

What BellSouth has done in that proceeding is taken out the number of DSOs and instead, put in the number of physical copper loops. So, they are -- they actually changed the inputs in the synthesis model so that the allocation would be based on facilities or a number of pairs rather than DSO equivalents.

Q In your prefiled supplemental rebuttal testimony about the Georgia proceeding, did you mention anywhere at all the fact that there are two different models, the federal synthesis model at issue in Georgia and the BSTLM at issue here?

A I'm looking. I'm not sure if I directly mentioned the names of the models or not.

Q Did you do it indirectly?

A I'm sorry?

Q Did you mention it indirectly?

A No. I don't think I mentioned the names of the models in the testimony.

Q I'm not a universal service expert, Mr. Pitkin,

but I had always understood that the purpose of universal service was to determine the cost of basic local exchange service; is that correct?

A That's true. But in considering the cost of basic local exchange service, you're intended and required to take into account of the full economies of scale and scope of the incumbents network, which means you have to consider all of the services offered over those network, including advanced services.

Therefore, the investments include the investments for all of that capacity, and then the question is how you're allocating it out. And in that proceeding, the allocation methodology is increasing the amount that is attributed to POTS service relative to what BellSouth is sponsoring in this proceeding.

Q Let me ask it this way, Mr. Pitkin. In the universal service proceeding using the HCPM synthesis model, is the Georgia Commission going to calculate the cost of, let's say, a DS3 loop?

A No. They aren't going to determine the cost of a DS3 loop, but they are going to consider those loops in both the investment and the cost. So, the more costs that are attributed to those DS3 loops, for example, if you were allocating based on DSOs would reduce the amount of investment that's allocated to POTS, but that's not the

methodology that BellSouth used in that proceeding.

Q Isn't it true that the HCPM model will only calculate the cost of basic local exchange service?

A Yes. It will only calculate the cost of basic local exchange service. But it calculates the investments, including the advanced services and DS1s, and then allocates that total investments to the underlying services, nothing different, fundamentally, from what is happening here in the BSTLM.

Q The dispute, basically, is how you allocate shared facilities, either between pairs or DSO equivalents, correct, Mr. Pitkin?

A Yes, it is.

Q And isn't it correct that a customer who has a DS1 line uses more capacity on a DLC system than a customer who just has a DSO?

A That question should be directed to Mr. Donovan. He's the engineering expert.

Q Mr. Donovan, is it correct that a customer who has a DS1 line uses more capacity on a DLC system than a customer who just has a DSO?

A (By Mr. Donovan) Yes, but you're mixing apples and oranges. The reason you're mixing apples and oranges, and this is reflected in BellSouth's own engineering practice, is that DSOs served by a digital loop carrier

system in a forward-looking technology, GR303, which has been around for almost 10 years, really does traffic management.

So that when a subscriber goes off hook, some portion of the bandwidth is seized during the duration of that call and then is released back again; whereas, a DS1 service uses the entire bandwidth. The way the BSTLM model is structured there are sufficient numbers -- there's a sufficient amount of bandwidth such that as many as -- well, they're using 84 DS1s in total for one ring.

And, in fact, each remote terminal may use as few as one DS1 out of that bandwidth and may use as many as, perhaps, 10 or 12. So, it's really an apples and oranges comparison.

The fact of the matter is, yes, the DS1, because it's a locked in piece of bandwidth, does use more. But that bandwidth is already there and lying fallow, because of the traffic management used in digital loop carrier systems for DSO.

Q How many time slots are there on a DLC system?

A How many time slots are there?

Q Yes.

A On an OC3, there are normally 84 DS1 equivalent bandwidth time slots.

Q Okay.

A Now, I would have to say that if you're going to allocate the entire bandwidth to a dedicated -- if everyone picked up their phone at once, which is not how the bell system or any other company has designed it, that's no traffic engineering at all; if all subscribers picked up their telephone at once on that system, then 2,016 subscribers could all pick up their phone at one time and that would be the capacity of the system.

Q And you said 84 DS1 equivalents. How many DSO equivalents would be represented on that OC3 system?

A If they were locked up full time as the hypothetical example of everyone picking up their telephone? Is that what you're asking?

Q Yes. I'm asking, what is the DSO capacity of the OC3 DLC system you just mentioned?

A 2,016 DSO equivalents, if everyone picked up their phone at the same time. Otherwise, based on traffic engineering, then, it's probably in the neighbored of 6 times that many or about 12,000 slots using traffic engineering studies.

Q And one DSO takes up about 1/2,016th capacity on the OC3 system you just mentioned?

A When it's off hook.

Q Okay. And one DS1 would take up 1/84th of capacity on that system?

A It takes up 1/84th but, as I mentioned, the way the systems are designed, they're actually designed so that for -- they're designed normally, based on 4 to 6 DS1s per 672 telephone lines at the other end. So, the total capacity -- that changes it to about the 1/12th thousandth of a capacity using traffic engineering.

Q Mr. Pitkin, I'd like to discuss with you some of the issues raised in the supplemental rebuttal testimony dealing with the modifications to the BSTLM.

And as, I believe, you indicated in your rebuttal -- I'm sorry, at your deposition, you wrote or drafted the supplemental rebuttal testimony; is that correct?

A (By Mr. Pitkin) I did.

Q In your supplemental rebuttal, you discuss a meeting between yourself and representatives of BellSouth on July 7, 2000, to discuss certain modifications to the BSTLM that you were proposing; is that correct?

A That is correct.

Q Is it fair to say that at that meeting BellSouth committed to reviewing all of the modifications that you had proposed and to get back to you accordingly?

A My recollection is that BellSouth said that they would take a look at them. I don't recall any commitment to get back to me on their decisions on them.

Q Is it fair to say that BellSouth did not commit to making any specific modifications at the July 7 meeting?

A Yes, that's fair.

Q Would you also agree that on July 26th, 2000, BellSouth advised the Commission and the parties that it would be making certain revisions to its cost studies, a number of which were unrelated to any matters that were discussed with you and BellSouth on July 7th?

A I wasn't a participant in that meeting. It's my understanding that BellSouth said that -- referenced our meeting and said that some of the issues that we addressed were going to be incorporated in that revised study.

Q I'm sorry. Are you aware that BellSouth wrote a letter to all the parties dated July 26th, filed it with the Commission, identifying a number of changes that BellSouth intended to make to its cost studies, a number of which were unrelated to any issues that you had raised at the July 7 meeting?

A If you can bear with me one second, I'm going to find that letter. I can't seem to find it, but that does sound correct, yes.

Q Okay. If you could look at your supplemental rebuttal testimony on page 2, where you accuse BellSouth of misleading the Commission into believing that its

revised cost studies were primarily based on discussions that were had on July 7. Could you explain, specifically, how it is you believe BellSouth misled this Commission?

A As I believe I mentioned in the deposition, this was not intended to reflect that I believe that BellSouth intentionally misled this Commission. Essentially, I was misled. And I feel, based on conversations that I had, that Staff may have been misled about the nature of the revisions. And that's really what this was trying to get. So, I have absolutely no idea, and certainly didn't mean to imply that BellSouth was intentionally trying to mislead this Commission.

Now, that being said, I don't know if at some point after BellSouth made its initial filing on potential modifications that they made a tactical decision not to address certain issues, but going in and especially considering some of the memorandum they sent out, I think, initially, they did intend to make a number of changes.

Q I'm sorry, Mr. Pitkin. Who at BellSouth, specifically, misled you into believing the revisions that BellSouth intended to make to its cost studies were primarily based on the July 7 meeting?

A I had no direct conversations with anybody at BellSouth. It was based on comments that were told to me from people at both AT&T and Worldcom regarding a meeting

in Kentucky on the BSTLM, regarding a meeting here talking about filing revised cost studies and based on some conversations with Staff.

Q So, nobody at BellSouth misled you, and you did not participate in any specific meetings where anybody from BellSouth was present that said anything about the changes that BellSouth was making to its cost studies; is that fair?

A This was all based on what was told to me by other people, that's correct.

Q Even though we discussed this at your deposition, you didn't feel compelled to modify your testimony at all to eliminate the reference or the accusation that BellSouth has misled this Commission?

A It also could be read I was misled by BellSouth's comments.

Q Okay.

A But, like I said, I had no intention of saying that this was an intentional act by BellSouth to mislead anybody. I don't know what else to say about it.

Q You were asked to, at your deposition, to provide a late-filed exhibit identifying all the specific changes and issues that were discussed with BellSouth indicating which ones were implemented and which ones were not, correct?

A Yes, that's correct.

Q And on your exhibit, you identified 20 particular items that were discussed. And you have some in the implemented and revision column. And, I believe, this is in the record already, you have a question mark, which I take to mean you don't know whether BellSouth implemented it or not.

A That's correct. Those three items had to do with documentation. And given the timing of the revised studies and the fact that we had to run BellSouth's model, I did not have time to review all of the documentation to find these items.

Now, that being said, I have reviewed Ms. Caldwell's deposition, late-filed exhibit, item number 9, that does state that those three question marks should be yeses.

Q Okay. Well, as far as the actual items that you say were implemented, as I count them, you indicate 6 or 7 of the 20 were actually implemented; is that correct?

A Yes. And with those three that would move it, I believe, up to 10.

Q Did you say that issue number one has been implemented?

A I say yes and no. BellSouth did implement a change. We just don't agree with the way the change was

made.

Q Okay. How many of the 20 items that were discussed do you now say BellSouth has actually implemented?

A I'd say they have implemented 9 fully and -- well, 9 fully and one other, just not to our satisfaction.

Q Do you remember at your deposition when I asked you how many of the items that you had discussed BellSouth implemented, that you testified that BellSouth had implemented a majority of them, probably between 50 and 70%?

A Yes.

Q And you're now changing that testimony?

A No, because many of the issues identified here, for example, producing the GIS input with the filings and removing password protection were not anything that was part of this proceeding. That was for the next time the model was filed in another state.

The purpose of this July 7th meeting was not at all to discuss revisions to the BSTLM for this proceeding. It was intended to discuss revisions that we'd like to see in other states, so we didn't have to relitigate these issues in every state going forward.

This is the first time this model's been filed that it's been reviewed. So, this was going forward we

wanted to avoid dealing with many of the same issues over and over. So, all of these items here don't apply to what was done in the revised filing in this proceeding.

Q I'm confused. And I don't want to belabor this point, but at your deposition you said of the 20 items you mentioned, BellSouth implemented a majority, probably between 50 and 70%; is that correct?

A That's correct, and they have to the issues that are actually relevant to this proceeding.

Q Oh, I see. So, your response to my question, which of the 20 items you listed, you were only talking about what were relevant to this proceeding?

A I didn't go down a list and count. It was an estimate. And it turns out 50%, I guess, 50 to 70, and I was considering the things that didn't apply to this proceeding, that 50 to 70% is about right.

Q You say you have read Ms. Caldwell's late-filed exhibit where BellSouth has indicated that it has actually implemented 14 of the 18 items that were discussed?

A I have. And the point I'm trying to make is many of the issues she did not -- many of the issues that were not made, for example, adjusting the land and building, the DLC vendor mix selection that DLC common and hard wire equipment costs and allocations, those are the issues that impact costs in the model.

And while virtually all of the other issues Ms. Caldwell says have been completed, the cost ones aren't. And to me, it seems like that's an odd priority to use in making corrections to a model. It seems like you ought to fix the things that impact costs first.

Q Is it a little easier to make some of these changes rather than some of the progamming changes that are necessary to implement some of the issues that you raise that effect costs?

A Well, they're all progamming changes. We have not been given the ability to modify the source code, so I have not gone through and evaluated how hard adjusting all of these things are.

Q Well, removing passwords doesn't take that much time, does it?

A I'm sorry, could you repeat that?

Q Yes. Removing passwords was one of the issues you raised. It doesn't take that much effort, does it?

A No, certainly that one doesn't. But there were passwords -- she says it's completed, the files that I got were still password protected, so I would disagree with that. I would also disagree with the MSRT routing issue that Ms. Caldwell says has been completed. So, essentially, the argument is that they've clarified the document, but they haven't fixed the circuitous routing

that exists within the BSTLM.

Q Mr. Donovan -- I'm sorry, Mr. Pitkin, you mentioned in your testimony or your summary that you thought that BellSouth may have strategically decided not to implement certain changes for its own reasons. Did I fairly characterize your statement?

A I have no idea whether BellSouth made any of those strategic decisions or not. They certainly could have after they filed the list of things that it were considering, which certainly shows an intent. And most of these issues were on the list of things that BellSouth was considering making.

When they filed their first list of things that they were evaluating, many of these issues were on there. So, they were certainly evaluating them and may have planned on implementing them. It is possible that as BellSouth was going through it, they said, "Gee, this is really going to impact cost. We don't want to do this at this point and time." I just don't know.

Q Did BellSouth do that? Do you have any knowledge that BellSouth made a change, ran the sensitivity and then decided, "Hey, we don't want to do this"?

A BellSouth wouldn't have actually had to make the change in order to decide that they didn't want to do it.

I've done a couple draft, back-of-the-envelope calculations, for example, on the DSO allocation issue. And one could just do some backhand calculations and say, hey, wow, this could reduce the advanced services cost by 50%. It doesn't have to be implemented in order to make that strategic decision.

Q I'll ask my question again and ask if you could answer with a yes or no, and then provide whatever explanation you need.

Do you have any information to suggest that BellSouth strategically decided not to make a specific change that you recommended because it might have an adverse effect on cost?

A No, I don't, but I also don't believe that was your question, because you asked me if BellSouth ran sensitivities. And the point I was trying to make is BellSouth doesn't have to run sensitivities to determine that something's going to have an adverse effect on costs.

Q Let's talk about another issue you raised in your summary, which was your allegation that BellSouth was double counting inflation. Is that one of the issues you discussed?

A Yes, it is.

Q And your view is that the nominal cost of capital compensates BellSouth adequately for the effects

of inflation; is that correct?

A Absolutely. This is a revenue -- what this comes down to is calculating the rate that needs to be recovered to compensate BellSouth for all the cost. The nominal cost of capital, in those calculations, is a direct cost that BellSouth needs to be compensated for. Therefore, inflation is already included in that nominal cost of capital and is already a direct cost that is included in the rates.

Q I think, you actually used the term revenue requirement in your prefiled testimony; is that correct?

A That's right. It's a revenue requirement problem.

Q Revenue requirement sort of sounds like a rate of return proceeding; is that correct?

A It is.

Q And that's what this is?

A Well, to the extent that you are guaranteed to recover whatever cost of capital is put into the model, what you're doing is bringing out what rate is required to recover that cost of capital.

That is not saying that this Commission has gone to BellSouth's books and historically evaluated the revenue requirements based on their embedded investment, because the investments here are forward-looking

investments.

So, it's not the traditional rate-of-return regulation. However, by including the nominal cost of capital in the analysis, you are guaranteed to recover that cost of capital, and that cost of capital does include inflation.

Q Would you agree that the cost of capital is a measure of return that investors would expect on an investment with certain risk characteristics?

A Yes, and that return needs to compensate them for inflation.

Q And this return is measured on an annual basis, correct?

A Normally, when you're talking about the cost of capital it is, yes.

Q Okay. I'm going to hand you out just a couple sheets with a hypothetical. I thought this might expedite the process.

MR. ROSS: And Mr. Chairman, I don't think we have to mark this an exhibit, but just for illustrative purposes.

BY MR. ROSS:

Q And take a minute to read over the assumptions and page 2, which illustrates year one's financials. Have you had a chance to review this hypothetical?

A (By Mr. Pitkin) I have.

Q And you use in your rebuttal testimony an example similar to this based on an annuity; is that correct?

A Yes, I do. And, essentially, the intent of that exhibit is to show the recovery pattern over time. It's impossible to analyze an investment that's going out over a number of years in a one-year hypothetical.

Q Okay. Let's just, so the record's clear, talk about the assumptions. We're assuming an equity investment in a company of a million dollars. We're assuming that the investor requires a 10% return on his investment as the nominal cost of capital based on a 4% inflation factor. And we assume that the intent of the investor will be paid $100,000 in dividends each year and at the end of the 10 years sells his stock for a million dollars to recover his investment.

And we also assume that in the first year the XYZ company has certain labor costs and other costs of operating. And we assume that the XYZ company is in the 50% tax bracket. Do you see that?

A I do.

Q Do you have any troubles with any of those assumptions? Any questions about those assumptions?

A No, other than the fact that dividends aren't

usually predetermined. That's not the way markets work.

Q Well, when we talk about a 10% return on investment, would you agree that the investor must receive either in dividends or growth of his stock $100,000 on a $1 million investment?

A Either one or the other. I mean, usually some combination of the two.

Q So, yes, to have a rate of return of 10% it will require either $100,000 in dividends or some appreciation of the stock, correct?

A I'm trying to think if it would be $100,000 going out each year would constitute a 10% return over the life. And I didn't bring my financial calculator up here with me.

Q $100,000 in dividends is 10% of a million dollars, right?

A Right, but you're going to need some growth.

Q Okay.

A Because the revenue that is going to be earned in the real world is going to increase over time.

Q Okay. Let's flip over to year one. Would you agree that in order to return $100,000 in dividends, XYZ company is going to need revenues of $700,000, based on the assumptions we've assumed in the way of labor costs, other costs and taxes.

A Yes. That would realize a profit of $100,000.

Q Ms. White's going to hand out a year two hypothetical and ask you to take a look at that. Have you had a chance to look at the year two assumptions?

A I have.

Q Assuming that, again, $700,000 in revenues and assuming the 4% rate of inflation that we previously posited, in year two the investor's only going to receive $92,000 in dividends, assuming no increase in revenues; is that correct?

A Okay. But I don't agree with those assumptions.

Q Which assumption do you not agree with?

A The revenue.

Q Okay.

A Revenue tends to increase over time, which is exactly the purpose of the charts that I lay out in Exhibit JCD/BFP-5, page 1 of 2. It shows that revenue over time increases if you are subtracting out inflation, okay? So, if the cost of capital is not including inflation, the revenue over time is going to increase.

What we are doing here is using the nominal cost of capital, so it's going to be flat, but you can't adjust inflation for only some components of the cash flow stream and not others.

Q Assuming no increase in revenues, the investor

will not achieve his desired rate of return, correct?

A Revenues -- if you want to make that assumption, sure, but that assumption is incorrect.

Q Okay, let's talk about that assumption. In the context of UNEs, is it your understanding that this Commission is going to establish UNE rates that will be in effect for some period of time?

A Yes, it is.

Q Do you understand that when the Commission last established a rate for a 2-wire analog loop, it was in 1996 establishing a rate of $17?

A I know it's something around that, yes.

Q Do you understand that $17 is still the rate that BellSouth charges in the year 2000 for a 2-wire loop?

A I wasn't aware of that. If the nominal cost of capital was used, that seems appropriate.

Q And how is it, if BellSouth is still charging the same rate for a 2-wire loop that was established in 1996 in the year 2000, you would expect revenues to increase?

A Because the way the cost of capital calculations work in those years is the revenues were too high for the past four years. In other words, going out over time -- it would be easier if I drew this.

Using the nominal cost of capital, what you're

doing, if this is "T" for time down here and over here is a dollar, is you're setting a rate that is going to stay flat over the entire life of the asset.

However, if you're using the real cost of capital in each year adjusting for inflation, which is more consistent with the way competitive markets actually work, but is more administratively complex, what you're going to see is a line that goes like that. So, the revenues over time will adjust to account for inflation.

I'm sorry. The line that starts on the bottom and goes up to the right is reflecting that over time the revenues and the rates for the unbundled network elements would increase over time, which is really how we see things in the real world.

By using the nominal cost of capital, what is being assumed is that the difference in the first years, BellSouth is being overcompensated for, essentially, leasing of the facilities, and in the latter years they will be undercompensated.

In the piece I set out in the testimony is saying that when you discount all that back, to present value terms, they equal the same thing. So, it's just the pattern in which BellSouth is going to be recovering their investment with the changes.

COMMISSIONER JABER: I'm sorry. You're going to

have to walk me through that again, because I don't understand how BellSouth, from that diagram, is overcompensated now, in your opinion, and then later on they'll be undercompensated. That's -- it seems like you're not taking into account other factors that might have an effect on the cost.

THE WITNESS: (By Mr. Pitkin) What I'm talking about deals with the initial investment. It's important to understand that these investments occur now in this modeling process that we're using. So, all those caches are here, there are no other costs. The investment is laid out, the money is borrowed from the people who require a return on that investment.

Operating expenses and running the network are a completely different exercise from what we're talking about here in this issue, okay? We are only talking about investments, which is why a number of the assumptions in the example don't apply, because there they're talking about operating costs. We are only talking about the cost of recovering the investment.

So, if all of that money is spent here at time zero, we are talking about how that money is going to be recovered over the life of the assets that are in place by the model.

Using the real cost of capital which is,

essentially, the cost of capital you would expect to have to pay, less a certain amount for inflation, okay, that is going to give you a lower starting point. Because, as I said before, the rates that are set are based -- are treated -- are established using the cost of capital as a direct cost of providing the service. It's the profit. When everybody talks about the cost of our facilities, plus a reasonable profit, we're talking about that profit part, and it's treated as a direct cost. So, you're establishing a rate here.

However, as time goes on and inflation actually occurs, what you would have to do is take that number and every year adjust it by some index, maybe the consumer price index or the producer price index, or some index. So, what you're going to see is a rate for unbundled network elements that would increase each year over time through the life of the asset.

What we are doing in this proceeding and, honestly, is done in most proceedings is use the nominal cost of capital, which already includes inflation. What that is going to do is increase the cost calculation, that profit point in year zero. But because inflation is already included in that profit point, those rates that BellSouth should be compensated for stay flat over the life of the asset, okay?

And when you look at these two together, and I have several charts in the rebuttal testimony, you will see that over time the present value, the total worth to BellSouth in today's dollars of these two revenue streams are the same. And I can point those exhibits out, if you'd like.

COMMISSIONER JABER: Okay.

CHAIRMAN DEASON: Mr. Pitkin, let me ask you a question. I believe, what you're saying is that if we establish UNE prices based upon a nominal rate, which includes inflation that that results in a certain price that you're saying should be fixed over a certain period of time, correct?

THE WITNESS: (By Mr. Pitkin) Yes.

CHAIRMAN DEASON: Okay. And that if we were to use -- if we were to ignore inflation, then there would be a nominal rate without inflation, which one would assume would be a lower rate of return.

THE WITNESS: Correct, that would be the real rate of return.

CHAIRMAN DEASON: Right, the real rate of return. So, if we establish prices of UNEs based upon the real rate of return that, too, would be a stable price, but it would be a price lower than that established when we were using the nominal rate of return with inflation;

is that correct?

THE WITNESS: That would not be a stable price. That price would have to be increased each year by some inflationary index.

CHAIRMAN DEASON: I'm saying, but if we as regulators dictated that we were going to do it without inflation, that would be a lower rate of return and we say we were just going to fix it for a period of time, that also would be a level price, but it would be at a lower level than the price we would set otherwise, correct?

THE WITNESS: I guess, the trouble I'm having with your question is when you say fix it for a period of time. If you decide not to include inflation and, essentially, BellSouth's cost of providing service through the cost of capital, you have to somehow find another way to compensate them for it. Now, if you're talking about maybe a two-year window, and you believe there's not going to be any inflation in the two-year window, then that's right.

CHAIRMAN DEASON: Okay. Just take my hypothetical. If we were to do that, you would draw a straight line that would be lower, correct?

THE WITNESS: This line right here?

CHAIRMAN DEASON: Yes.

THE WITNESS: Okay.

CHAIRMAN DEASON: And there's a difference between those two lines, correct?

THE WITNESS: Correct.

CHAIRMAN DEASON: Now, you would agree that is designed to provide the recovery of inflation to BellSouth, the area between those two straight lines.

THE WITNESS: I'm sorry, now I understand your question, exactly.

CHAIRMAN DEASON: And that is what you're saying would be recovered. All right. Explain to me what you mean.

THE WITNESS: The answer is yes; going out over the life of the asset, this would be the compensation for inflation.

CHAIRMAN DEASON: And you're saying that in real market you would see increasing prices which the difference you would overrecover in the first years and underrecover in the later, but it should be -- but if we assume for regulatory purposes a straight line the difference between those two lines should equal out or not in theory?

THE WITNESS: The difference between this line going up and to right and this line? Yes, they should equal, right. But what you cannot do, and the point I'm trying to make in this analysis, is you cannot start with

this point, which is what BellSouth is trying to do, and then go up like this. This is the line that BellSouth is trying to recover.

CHAIRMAN DEASON: Okay, and that's my point. If we were going use an inflation factor, shouldn't we start the initial price at a nominal rate of return, which does not include an inflation cushion?

THE WITNESS: If we were going to use an inflation factor, that's right, then you would start with this lower real rate of return.

CHAIRMAN DEASON: And then, we would add inflation to that.

THE WITNESS: And then, you would add inflation to that.

CHAIRMAN DEASON: Which would start at a lower price, initially.

THE WITNESS: That is exactly right.

CHAIRMAN DEASON: Thank you.

BY MR. ROSS:

Q Mr. Pitkin, isn't it true -- and you can return to your seat. I don't need anymore pictures.

Isn't it true that where inflation comes into BellSouth's cost studies, it calculates investment by taking material prices that exist, say, 1998 or 1999 in inflating them to the midpoint of the three-year study

period?

A (By Mr. Pitkin) That's right, that's what they're doing. And it's clearly, clearly, inappropriate.

Q It's so clearly inappropriate to you -- you're aware that that's exactly what this Commission did when it set the $17 in 1996 for the cost of a loop?

A I'm not aware of what this Commission considered in 1996. I was not involved in that proceeding.

Q Would you agree, subject to check, that this Commission established UNE rates using an inflationary factor just as the way BellSouth proposes to do it in the this proceeding?

A Subject to check. It's not correct economic or financial analysis.

Q Are you aware that this Commission also adopted BellSouth's inflationary factors in 1998 and, specifically, found that the use of such factors was reasonable?

A I'd have to see how they made that determination, what the order was, what the issues were, if they used a real cost of capital or a nominal cost of capital. I mean, there are a bunch of factors. So, without seeing an order, I can't comment on why the Commission made that decision.

MR. ROSS: May I approach the witness just

quickly?

CHAIRMAN DEASON: Yes.

BY MR. ROSS:

Q I've handed you the April 1998 order of this Commission establishing rates in the arbitration with AT&T and MCI and MFS. Do you see that first sentence in that second paragraph, I believe, that I pointed to you?

A (By Mr. Pitkin) Yes, I see it.

Q Could you read that into the record, please?

A It says, "We also find that BellSouth use of inflation growth factors that range from 3.4% to 5.1% is reasonable."

I haven't seen anything telling me what cost of capital they've assumed or whether these are, you know, growth or inflation factors used on contract labor for operating costs, which is a fundamentally different issue than what we're talking about here, which is investment.

Q To your knowledge has this Commission ever adopted a cost of capital for purpose of UNEs, other than a nominal cost of capital?

A I'm not even sure that this is a UNE proceeding. I've never seen this order before.

Q To your knowledge, how many proceedings have AT&T and BellSouth been involved in, in this region, where the price of unbundled network elements has been at issue?

A I have no idea.

Q Would you agree, subject to check, we've had proceedings in every one of BellSouth's states where the cost of unbundled network elements has been an issue?

A That would not surprise me.

Q To your knowledge, has this issue of double counting inflation ever been raised before this proceeding?

A I believe, it was raised in the universal service proceeding, and it was rejected.

Q I'm sorry, my question was unbundled network elements. To your knowledge, has that issue ever been raised prior to this proceeding?

A No, but it should have. I was not involved in any of the other unbundled network element proceedings.

Q Now, in your rebuttal testimony, you talk about -- I'm at page 19. You make the statement at lines 8 through 10 that if nominal costs of capital are employed, unit prices for material and labor used to develop the total network investment must be locked in at the levels initially established by the Commission. Do you see that?

A I'm sorry, could you refer me to the page number again?

Q Page 19 of your rebuttal testimony, lines 8 through 10.

A Yes, I see that.

Q What levels initially established by the Commission are you referring to?

A I'm not referring to any specific levels. I'm talking about the price of materials. Essentially, if the Commission determines that the appropriate cost of building a network in 1995, for example, is "X" amount, and that "X" amount was determined based on the -- certain cost inputs, those cost inputs should remain in effect, because that's what they should be recovering for.

Q So, when this Commission established UNE rates in 1996, your view is that those same material prices that were used in that proceeding should be used in this proceeding in the year 2000?

A I do believe that the material prices should. That does not mean that total installation costs should be used to the extent that they are found to be to distort results. It also does not mean that the same network assumptions should be used to the extent that we are now using a different model.

Q Well, just to be clear, when you talk about the unit prices for material and labor, whatever unit prices for material and labor this Commission used in 1996, your view is that they should be used again in this proceeding; is that correct?

A If the Commission determination in that proceeding was right, it's my understanding that that wasn't a deaveraging proceeding and, therefore, can't be used in this proceeding, because the loadings in that proceeding, as BellSouth asserts, average out, but they cannot average out in this proceeding; therefore, they can't be used in this proceeding.

Q Okay. So, you're not advocating that the Commission used the labor and material prices that it used in 1996?

A No, I'm not, because they can't be used in this proceeding, because it would severely bias and distort the results.

COMMISSIONER JABER: How would it do that?

THE WITNESS: (By Mr. Pitkin) BellSouth's loading factors that they use are linear loading factors. And the USF order clearly addresses this issue.

It assumes, for example, that -- let's say, for example, that the cost of a 2,400-pair cable was 20 times more than the cost of a 12-pair cable, and you have a multiplier of 10 for installation cost. They're going to assume that it costs $200 more to lay that same cable, to install it, than it would for a 12-pair cable.

BellSouth asserts that yeah, overall, all the cable costs average out in the end, but the problem is

we're talking about deaveraging rates. The bigger cable sizes are used in certain density zones and certain areas, the smaller cable sizes in others.

So, what you're going to have is a severe distortion that significantly inflates the costs and investment attributed to the higher-density zones and understates them to lower-density zones.

So, while the concept may work in an averaging process where you're talking about averaged rates, when you're talking about deaveraging and trying to isolate costs of a specific area, they don't work at all, and they can't work.

COMMISSIONER JABER: Use the rural areas, in particular, where supplies and materials might be more difficult to find by virtue of the area itself and tell me how costs can be manipulated in BellSouth's favor.

THE WITNESS: Well, in rural areas, it wouldn't necessarily be the same sort of distortion. There are a number of really complex issues going on. First, the rural areas, by use of their loading factors, BellSouth's methodology may understate the investment a little bit, okay?

But in contrast, there are a lot fewer customers in the rural area. So, what you're talking about is the extent of the distortion that's created, multiplied by the

number of people where that cost is distorted for.

Now, when you're talking about Miami, and they're inflating the cost of installation by 100% where the cost -- and actually, based on universal service order, in some cases BellSouth is assuming installation costs of $80, but what this Commission adopted was $20 based on the inputs and the order in that case.

You're talking about a $60 distortion per foot of cable. Now, when you multiply that $60 distortion, and you're talking about the number of customers in Miami that are actually affected by that, you're talking about a whole lot of customers. So, it doesn't average out in the end when you're separating areas based on cost. Does that help?

COMMISSIONER JABER: I guess, I'm just trying to understand, then, the FCC's mandate to us that we should deaverage zones in three areas. Is the problem the way we're looking at costs or is the problem geographic deaveraging?

THE WITNESS: The problem is -- in the universal service order you had the same issue to address, unlike the UNE order where -- although I haven't read it, I infer that the linear loading factor approach may have been used.

In the universal service order, you were

wrestled with the same issue. You're talking about subsidy on a different geographic level. To do that, you can never use any sort of average multipliers, because you're going to be distorting the low end, you're going to be distorting the high end.

You didn't adopt the linear loading factor in that order, because it would have had those distortions, because we are deaveraging here, and it's my understanding at least three zones. It could be more, depending on what this Commission determines, but because we are deaveraging here, you can't use the loading factors either. And based on the decisions you made in the universal service order, the numbers that you used were installed investments.

So, if you use those numbers in this proceeding, you don't have to -- you can get rid of the loading factors and not worry about it at all. It should also be noted that in those -- in the universal service order, the material costs for Sprint which was, essentially, the numbers you adopted and BellSouth were very similar.

So, it's not the material costs that are at issue. BellSouth isn't being hurt in any way by using Sprint's material costs. The distortion all comes from the installation side. And it's that distortion that we're really concerned about and will skew and bias the results of the deaveraged rates.

BY MR. ROSS:

Q Mr. Pitkin, do you see any difference between the exercise that this Commission has engaged in here in establishing rates for unbundled network elements and the exercise in establishing universal service?

A (By Mr. Pitkin) There are some distinctions and some differences, but there are many, many similarities. And the big one is that you have to determine costs on a much more disaggregate basis than you ever did with an overall average UNE rate.

Q Would you agree that in this proceeding the Commission is establishing rates for unbundled network elements that will, essentially, be put in interconnection agreements or contracts between BellSouth and the various carriers in the state of Florida?

A It's my understanding that what the Commission orders will be used, the rate for using those elements.

Q And do you understand those rates will be reflected in contracts between BellSouth and various carriers?

A I don't really know how that process works after the Commission makes its determinations.

Q When you're quoting from this Commission's universal service decision on page 22 in the context of indexing -- do you have that in front of you? It's your

rebuttal testimony, page 22.

A Yes, I have it in front of me.

Q You say on lines 18 through 20, quote, "The Commission's USF decision which recognize that, quote, indexing may be appropriate, for example, in a contract arbitration but not in this proceeding." Do you see that?

A I do.

Q And this proceeding would be referring to the universal service proceeding.

A Yes, but the universal service proceeding, the concept is very similar. You're establishing the rates for elements. In a contract arbitration, you're often talking more about maintenance cost and operating costs and labor costs, to a large extent, that may change over time. I'm talking about investment base when I'm talking about indexing.

Q Do you consider this -- let's assume, hypothetically, that the Commission established UNE rates in individual arbitrations as they did in '96 and '98.

A Okay.

Q Do you see the process of establishing rates for unbundled network elements in those individual arbitrations anything different than what the Commission is doing here in one generic proceeding?

A No, except that now the rates are being

deaveraged.

Q Okay. Mr. Donovan, I've left you alone for a little while. I want to make sure you earn your pay.

On the issue of drop lengths, which is another subject, which is addressed in your testimony at page 7 of your rebuttal testimony --

A (By Mr. Donovan) Okay.

Q -- lines 15 through 16, you make the statement that the BSTLM should always assume that the drop is placed at the corner of a customer's lot; is that correct?

A I'm sorry, what page was that?

Q Page 7 of your supplemental rebuttal, lines 15 through 16.

A I'm sorry, I was on the wrong testimony. Okay.

Q Do you see that statement?

A Page 7 -- would you repeat the line number?

Q Yes. Line 15 through 16 where you state the BSTLM should always assume that the drop is placed at the corner of a customer's lot.

A Yes, I see that.

Q When we're talking about drop length, of course, would you agree that the longer the drop the greater the investment in those facilities?

A Yes.

Q And shouldn't this exercise be one to minimize, within technical parameters and provisioning guidelines, the amount of drop that you used in the network?

A Yes, as long as it meets what I have described as generally accepted outside plant engineering practices.

Q Is it your view that the drop should always be assumed to be placed at the corner of a lot, even if placing the drop terminal directly in front of a customer's location minimizes the drop length?

A Any witness always hesitates with the always or never question. And, basically, I'm an engineer more than a cross witness, but I would say that my answer to my clients on this would be based on a technical perspective, based on practices.

And the practices are, which I think anyone can readily view an aerial plant is just ride down the street and look, and you'll see that drops are placed normally, from the corner at an angle where it hits the house.

To do otherwise, you would have to run the drop along the strand and then attach it again to the strand and run it straight in so that you would hit the front of the house, which you don't normally see that. There may be an exception, like a driveway is in the way, but that's the exception rather than the rule.

To answer your question directly, you want to

minimize cost, but I think it's important to also follow what you would typically expect to find out there.

Q Could you look at your Exhibit 14, please, Mr. Donovan.

A Okay.

Q You have on this diagram two lots, and you are purporting to represent a drop being run to the center -- from the center of the house to the front of the lot and then down the street to the drop terminal, I suppose; is that correct?

A Yes.

Q Now, what I'd like you to do is assume that the BSTLM, in certain circumstances, actually places the drop terminal right in front of the house so that it's 50 feet away from the home. Are you with me so far?

A Yes.

Q And on your right-hand diagram, of course, you would have the drop terminal some 90 feet from the customer's home; is that correct?

A That's correct.

Q Would you agree that if it were more efficient and would minimize the drop length that it might be appropriate to place that drop terminal 50 feet, rather than 90 feet away from the customer's house?

A Well, mathematically, that would appear to make

sense. What happened to the other four lots or the other three lots in this cluster of customer locations? Normally, a drop terminal is placed to serve a number of these lots, so...

Q What about a customer who is all alone at the end of the street who has one drop terminal?

A Okay.

Q In that circumstance, do you believe it would be more efficient to place the drop terminal directly in front of that customer's house rather than on a corner?

A As an engineer, it's unlikely that I would put it smack in front of the house, even if it cost me a little longer drop as an engineer. I would engineer it so that it didn't have to go under a driveway or hit the front door of the house.

So, yes, in that case it's a conservative assumption that in your particular example one lot, one drop terminal, one drop, then what I recommend is a more expensive solution.

Q Now, Mr. Pitkin, you contend that the drop length is actually overstated by 21.7%; is that correct?

A (By Mr. Pitkin) Yes.

Q And that calculation is based on the one hypothetical customer location that's set forth in Exhibit 14, correct?

A Well, it's based on an assumption that is the average customer location based on the average distance produced by the model for a drop length. And the assumptions about -- in the model about how far back a house is from the street. So, there are assumptions in there, yes. But in general, if you're talking about the average drop placed by the model, the average drop is overstated by 21.7%.

Q I just want to make sure the answer to my question is clear. Your calculation of the 21.7% is based on looking at this one hypothetical customer location that's reflected in your Exhibit 14; is that correct?

A Yes, to the extent that that one hypothetical customer is actually the average customer in the model.

Q And did you make any effort to verify whether this particular customer location is, in fact, the average customer location?

A This is the average drop distance produced by the model.

Q Did you make any effort to identify the extent to which drop length would be overstated by looking at all customer locations modeled in the BSTLM, assuming that the drop was routed to the corner of the lot?

A I'm sorry, could you please repeat that?

Q Yes. Did you make any effort to identify the

extent which drop length would be overstated by looking at all customer locations modeled in the BSTLM, assuming that the drop length was routed to the corner of the lot, as you have proposed?

A The only check that I could do on that was to confirm that somewhere around 3% of the total drops only go to one customer. So, the number of drops that may be -- using the corner lot methodology would inflate are probably only 3%, and most of them would be reduced significantly.

MR. ROSS: Mr. Chairman, may I approach the witness, please?

CHAIRMAN DEASON: Yes.

BY MR. ROSS:

Q Mr. Pitkin, I have handed you a portion of the transcript of your deposition, page 86, line 17, where I asked you that exact same question that I asked you a few minutes ago. And how did you answer at that time?

A (By Mr. Pitkin) At that time, I answered -- should I read this whole --

Q No, you can just read your answer, if you'd like.

A There are two answers highlighted. One is, "That is correct." The other one is "No, what I did was use the average drop length."

Q Mr. Pitkin, the question beginning at line 17, where I asked you did you make any effort to identify the extent to which drop length would be overstated by looking at all customer locations modeled in the BSTLM, assuming that the drop was routed to the corner of the lot, how did you answer that question at your deposition?

A The whole answer's not here. I said, "No. What I did was use the average drop length." I went back after this deposition and calculated the number of drops that go to a single customer location.

Q Let's talk about the issue of DLC SONET equipment vendor mix, which is another issue discussed in your testimony. Mr. Pitkin, can I ask you to look at Exhibit 17 to your supplemental rebuttal testimony. And, I believe, this is a confidential exhibit, if you please.

If I understand it correctly, Mr. Pitkin, this exhibit reflects the modifications to the logic of the BSTLM to choose the most efficient DLC vendor at each location; is that correct?

A That's correct.

Q And, if I understand what you've done here, the modification, basically, results in the assignment of vendor A to a location where the number of DSOs is less than 449, otherwise, vendor B is used; is that correct?

A That's correct.

Q In this 23-page exhibit, is there any other change to the BSTLM that you have made, other than what we have just described?

A No.

Q And in connection with the DLC SONET vendor mix issue, have you made any other changes to the BSTLM that are not reflected in Exhibit 17?

A No, not that I can think of.

Q Was there any specific analysis that you did to arrive at the 449 DSO break point by which you had assigned to vendor A versus vendor B?

A Yes. We did a similar analysis, which is shown in Exhibit JCD/BFP-9 of our rebuttal testimony.

Q What assumptions did you make in that exhibit relating to the type of plug-in cards that would be used on the DLC systems?

A I assume, normal POTS cards.

Q To your knowledge, BellSouth has a mix of services that require a number of different line cards, correct?

A That's correct. And, as I believe, Mr. Stegeman's testimony points out, those comprise less than 1% of the services. And it would be nearly impossible to do this analysis analyzing and determine a break point analyzing each service. So, I used POTS

service which is, by far, the preponderance of the service that's modeled.

Q But at least with respect to identifying the break point between vendor A and vendor B, you did not consider the full suite of services and full complement of equipment that BellSouth may be buying from vendor A or vendor B; is that correct?

A That is correct, I didn't think it was relevant.

Q Mr. Donovan, do you agree that DLC vendors have proprietary equipment, such that you cannot mix two different vendors' equipment on a single DLC system?

A (By Mr. Donovan) On a system, yes, that's a correct statement.

Q So, in other words, if you buy an Alcatel, which is a particular manufacturer, if you buy a remote DLC from Alcatel, you could not have a Marconi time slot interchanger in the central office on the same system; is that correct?

A On the system, that's a correct statement. However, you could operate it over the same fiber cable.

Q I'm not sure I understand that. If you have 6 pair of fiber that's connected to an Alcatel remote DLC, can you go 6 pair of fiber be connected to a Marconi time slot interchanger in the central office?

A I'd like to go to the board to explain my

answer.

Q Can you answer the question, then explain it to the extent you want.

A Well, to the best of my knowledge, you cannot connect 6 fibers to the Marconi multiplexer.

Q Well, I picked 6 just as a number. The same strand of fiber, can you have it connected from an Alcatel remote DLC to a Marconi time slot interchanger in the central office?

A One fiber, no, you cannot. However, my answer was with a cable, fiber cable, which has more than one fiber in it, then, it is absolutely possible to have two different vendors on the same SONET ring.

Q Okay. If I could, Mr. Pitkin, ask you to take a look at a couple exhibits.

MR. ROSS: And Mr. Chairman, I think, just for the record, I would like to go ahead and have the assumptions that I earlier showed Mr. Pitkin marked as an exhibit. I think that would be easier for the record. I believe, Exhibit -- that would be 127.

CHAIRMAN DEASON: I believe, 126, but I may be mistaken.

MR. ROSS: We are missing 122, I had on my list, but I think -- maybe I'm wrong, but we may have picked up with 123. However you have the --

CHAIRMAN DEASON: Well, I've got the list. And until I'm proven wrong, I will assume I'm right. It's 126. 122, by the way, was prefiled exhibits accompanying the testimony of witness Gillan.

MR. ROSS: Witness Gillan. Okay, thank you, I missed that. Thank you, Mr. Chairman.

(Exhibit 126 marked for identification.)

BY MR. ROSS:

Q Mr. Pitkin, I have handed you a diagram, which I'll represent to you is an actual run of the BSTLM model representing an arrangement in West Palm Beach, Florida. Do you see that?

A (By Mr. Pitkin) I see in the front of me, yes.

Q And this is the central office terminal I.D. number for this particular run from the BSTLM is 2218. And in this arrangement you have central office in West Palm Beach serving three different remote terminals, which I've labeled A, B, and C; do you see that?

A I do.

Q And in each remote I have labeled the number of DSOs that are served by that particular remote terminal; do you see that?

A I do.

Q Now, under your proposed modifications to the BSTLM, am I correct in assuming that remote terminal C

will be served by vendor A, remote terminal B will be served by vendor B, remote terminal A would be served by vendor A, and the central office would be served by vendor A; is that correct?

A I don't think that's correct. It's true that remote terminal A and remote terminal C would be served by vendor A and that those two should have the central office equipment as vendor A. But remote terminal B would be served by vendor B and should have central office equipment back at the -- the COT equipment back at the central office; that is -- I'm sorry, the central office equipment for vendor B as well. So, there should be consistency between the remote terminal vendors and the COT vendors.

Q Could you show me the changes to the model in your Exhibit 17, which would ensure that you actually have two different DLC equipment being placed in the central office by two different vendors?

A Page 1 through 11 are all of the calculations for the remote terminal. And starting on line 116 on page 11, discusses central office terminal equipment. It would actually be a lot easier if I could see the Excel spreadsheet that does these calculations, but they both use a criteria of less than 449.

And since these are done RT by RT basis; in

other words, the model brings in a remote terminal, costs it, and determines the central office terminal requirements for that remote terminal, and then it brings in another remote terminal, costs it. So, the same criteria is used for both the central office terminal part and the remote terminal part.

Q So, you're putting in two remote -- your testimony is -- your logic in this change that you're making actually places two digital loop carrier systems in the central office where, under BellSouth's system, only one would be placed; is that correct?

A No, that's not true. BellSouth would be putting 40% of vendor A, I believe, and 60% of vendor B in the central office. So, they would -- and it's the way the model works. They would, in effect, be putting two terminals in the central office, no different than we are here.

Q I'm sorry. Can you point to where in the model logic or where in BellSouth's methodology it, specifically, says that it's going to place two different DLC equipment in the central office for vendor A and vendor B?

A Sure. If you look at proprietary Exhibit JCD/BFP-10, and I won't mention the exact numbers, BellSouth has a mix of vendor A equipment and a mix of

vendor B equipment. The way that gets used in the model is it builds out vendor A equipment, both at the remote terminal and at the central office terminal, and it builds out vendor B equipment, both at the remote terminal and the central office terminal, and it uses a mix.

So, not only is BellSouth saying that -- essentially, they are saying that they are mixing equipment at each specific RT type between two different vendors, and they're doing the exact same thing back at the central office. "X" percent is going to be vendor A, "X" percent is going to be vendor B. So, each specific site and back in the central office is going to have two vendors.

Q I'm sorry, maybe my question was unclear. I understand the concept there's going to be a mix of vendor A and a mix of vendor B. My question is can you point to something in Ms. Caldwell's testimony, something in Mr. Stegeman's testimony, something in the methodology of the model where you can convince this Commission that BellSouth's model puts in two DLC systems in the central office, one for vendor A and one for vendor B?

A I could ask this Commission to look at logic of the model and look to see how these vendor inputs are used in the model. For obvious reasons, I understand why Ms. Caldwell and Mr. Stegeman didn't directly address this

topic and how each RT site has two different vendors at it.

Q Your testimony is that Mr. Stegeman did not address this issue in his rebuttal testimony?

A I don't remember him addressing the issue of the mix at each RT site. And vendor A's there and vendor B's there, and they mix the cost, which overstates the cost of every individual site.

MR. ROSS: Mr. Chairman, I'm about to move on to something else. I don't know if you wanted to -- I've got just a few more questions, probably about another 15 minutes.

CHAIRMAN DEASON: Continue. Are you requesting a break?

MR. ROSS: No, I was just asking -- I'm just getting ready to change subjects.

CHAIRMAN DEASON: We're going to take an early lunch today.

MR. ROSS: Very good.

BY MR. ROSS:

Q Mr. Pitkin, your supplemental rebuttal testimony addresses other topics regarding spanning road tree routing; is that correct?

A (By Mr. Pitkin) Yes, it does.

Q But you don't propose any specific adjustments

to BellSouth's cost studies to address either of those issues, do you?

A I think what I say, and if I can turn to it, and if I don't say it in this testimony, I certainly say it in the rebuttal, that the Commission should order BellSouth to correct the model because the way it is implemented is incorrect and overstates investment.

Q Let me just make it clear. Do you have any specific adjustment for either of the two issues I just asked you about in the way of reducing BellSouth's cost?

A Specifically, to the land and building, yes, I do. I suggest that this Commission order BellSouth to adjust the land and building cost to allocate the land and building investments, either on a per-pair basis or a per-card basis or a size of equipment basis, because the methodology used right now -- if you think, for example, that an advanced services card may cost $500 per service while a POTS card may cost $100 per service, that advanced service card is going to get five times the land and building investment than the POTS card, even though they take up about the same space. It doesn't make any sense. And that methodology should be modified so the land and building investment is attributed based on the amount of land and building actually used by the different equipment.

Q Let me ask you to look at your testimony, Mr. Pitkin, page 12 of your supplemental rebuttal, lines 11 through 16, where you state that the Commission and the parties are not able to adjust the BellSouth cost calculator to correct this problem and that you've not been able to find the satisfactory solution to implement a correction to this problem, correct?

A That's correct. And in my rebuttal testimony, page 44, lines 7 through 13, we state that this Commission should require BellSouth to use a more appropriate methodology for allocating land and building investment. Two possible options would be to calculate land and building investments based on equipment size --

CHAIRMAN DEASON: Excuse me. You need to slow down. Start over.

A (By Mr. Pitkin) On page 44 of the rebuttal testimony, it's actually lines 9 through 13, we state that this Commission should require BellSouth to use a more appropriate methodology for allocating land and building investment. Two possible options would be to calculate land and building investment based on equipment size or to apply a fixed land and building investment per line.

BY MR. ROSS:

Q Let me ask it this way, Mr. Pitkin. The proposed rates that BellSouth -- I'm sorry, that AT&T and

MCI are proposing in this proceeding do not reflect any adjustment that you have made for this land and building issue that you have raised, correct?

A No, they don't, because BellSouth has refused to provide the parties with a version of the source code that we could modify and actually implement these modifications.

Q This is the source code to the BellSouth cost calculator; is that correct?

A This one, specifically, is which we did not request, but we did request a source code to the BellSouth Telecommunications loop model, which addresses the minimum spanning road tree algorithms that we were not able to adjust.

Q So, when you just testified that BellSouth refused to provide the source code to the BellSouth cost calculator, what you meant to say is that AT&T and MCI never requested the source code to the BellSouth cost calculator; is that correct?

A We never requested it to the cost calculator. We did request it to other portions of the model, and it was refused.

Q And again, going back to my original question, when it comes to the issue about the minimum spanning road tree issue, the rates that MCI and AT&T are proposing do

not reflect any specific adjustment for that issue; is that correct?

A That's correct, because we haven't been able to get into the source code and modify it, as we would have liked.

Q And with respect to both of those issues, you identify them to illustrate your view that the BSTLM results are, quote, too high and, quote, do not truly -- and are not truly the least cost solution; is that correct?

A That is correct.

Q And the results that you are referring to are the results that AT&T and MCI have generated using the BSTLM with the other adjustments that you have made to the model; is that correct?

A Well, actually, I'm suggesting that any rates developed by -- any investments developed by this model would not truly be the least cost investment. So, they are somewhat conservative in their estimates of investments.

Q Fair enough. So, you would agree -- so, your position would be that the results that MCI and AT&T are reflecting in their rate proposals are conservative; is that correct?

A Somewhat.

Q Let's look at the 2-wire voice-grade loop. Do you know what AT&T and MCI are proposing in the way of a statewide average for that particular element?

A I don't have that number on me. I believe, it's an exhibit to Mr. King's testimony.

Q You'd agree, subject to check, according to Mr. King's revised Exhibit JAK-1, the cost of a 2-wire voice-grade loop is $6.76?

A That would make sense.

Q And it's your view that that rate is conservative, too high, and not truly the least cost solution?

A That's correct.

Q Mr. Donovan, you are on the outside plant engineering team that has been involved in the development and sponsorship of the Hatfield model or the HAI model; is that correct?

A (By Mr. Donovan) That's correct.

Q And you've been a member of the Hatfield engineering team for a number of years; is that fair?

A That's fair.

Q And, in fact, we have several witnesses who -- at least one of the witnesses who serves on the Hatfield engineering team with you, Mr. Riolo?

A That's correct.

Q Now, you testified in your deposition that the Hatfield model is an effective means by which the costs of unbundled network elements can be determined using least cost forward-looking technology, correct?

A Yes.

Q Likewise, Mr. Pitkin, you have appeared in several proceedings, such as this one, to support use of the Hatfield model; is that correct?

A (By Mr. Pitkin) I was -- in those proceedings, I was actually critiquing the benchmark cost proxy model and comparing it and contrasting it to the HAI model. I was not sponsoring the HAI model.

Q My question wasn't in sponsoring. You have appeared in several proceedings in which you have supported the use of the Hatfield model to establish rates for unbundled network elements, correct?

A Relative to the benchmark cost proxy model, that's right.

Q And in docket 980696-TP, you told this Commission that the Hatfield model, in relation to BCPM was the most reliable means to model a basic local exchange network using most efficient forward-looking costs; is that correct?

A That's correct.

Q Mr. Pitkin, do you recall the cost of a loop in

Florida using the Hatfield model, which you endorsed in docket 980696-TP?

A No, I do not.

Q Would you accept, subject to check, that MCI and AT&T filed the docket 980696 in August 1998 that generated a monthly loop cost of $9.39?

A Subject to check. And given the results of the BCPM relative to the HAI model, that doesn't necessarily surprise me. The BSTLM constructs significantly less route miles than the HAI model and also places fewer DLCs in the HAI model. So, while the BSTLM does construct more efficient outside routes than the HAI model, at least in the state of Florida --

Q I just want to be clear here. If the Hatfield model generated a loop cost of $9.39 in August of 1998 rate or the costs that AT&T and MCI are proposing in this proceeding is $6.76, which is a couple bucks difference, correct?

A It is a couple dollars difference, and it makes perfect sense. The HAI model, as it was filed in this proceeding, used geocoded customer locations to the extent that they could, but a lot of those customer locations, as you may recall, were estimates. Essentially, they were evenly distributed. What that methodology does is places customers as far apart from one another as possible, if

they couldn't otherwise, be geocoded.

So, the fact that BellSouth now has actually geocoded locations in the model, it should also significantly reduce the costs that would have resulted from the HAI model in that proceeding.

So, you have to take this whole thing as a whole and understand the advancements that have gone on and the types of information that BellSouth has that were not using that model. It makes perfect sense that this model would result in less cost.

Q Would you agree that in its January order in the universal service docket, the Commission declined to adopt the Hatfield model results because, at least in part, it had a downward bias in costs?

A I don't remember that quote in the order. I do remember several discussions of the minimum spanning road tree. And, in fact, you know, I thought the HAI model was better than relative to the BCPM. And what the BSTLM is showing here really supports the conclusion that the BCPM was much more overstated than the HAI model in terms of efficient network routing.

Q Would you agree that the universal service proceeding the Commission concluded that the HAI model tends to understate amount of outside plant facilities required?

A Obviously, BellSouth tends to agree closer with the HAI model than the BCPM, based on just the amount of facilities placed. I don't recall any testimony submitted by Mr. Stegeman refuting the number of DLCs placed by the BSTLM versus the BCPM or the HAI model. It was in our rebuttal testimony, and he didn't file any comments on it, so...

COMMISSIONER JABER: Mr. Pitkin, I don't think that's what his question was. Can you repeat your question for me?

MR. ROSS: Yes, Commissioner.

BY MR. ROSS:

Q Mr. Pitkin, you aware that the Commission concluded that the Hatfield model tended to underestimate the amount of outside facilities required?

A (By Mr. Pitkin) I'd have to go back and review the order.

Q Assume, subject to check, that the Commission concluded that the Hatfield model tended to understate the amount of outside plant facilities and tended to have a downward bias in its results, that model generated a cost of $9.39 for a loop, correct?

A Subject to check.

Q Yet, a $6.76 cost for a loop is, quote, too high, quote, conservative, and may not reflect least cost

technology; is that your testimony?

A Yes, based on the model submitted by BellSouth in this proceeding, which places far less facilities.

MR. ROSS: Mr. Chairman, to the extent I haven't done so, I would ask the West Palm Beach diagram be marked as the next Exhibit, 127.

CHAIRMAN DEASON: Yes, Exhibit 127.

(Exhibit 127 marked for identification.)

MR. ROSS: And I have no further questions for either of the witnesses.

CHAIRMAN DEASON: Staff?

MR. KNIGHT: Staff has no questions.

CHAIRMAN DEASON: Commissioners? Redirect?

MR. LAMOUREUX: I have a few questions.

REDIRECT EXAMINATION

BY MR. LAMOUREUX:

Q I'm going to go back in reverse order. As between the three models, BCPM -- this is to Mr. Pitkin, BCPM, HAI, BSTLM, which model places fewer facilities?

A (By Mr. Pitkin) The BSTLM places far fewer facilities than either model. And, I guess, the point I was trying to make is that, apparently, the numbers in our rebuttal testimony aren't refuted and are actually agreed with.

So, all I can assume by BellSouth putting forth

this model in this proceeding, a model which produces far fewer facilities, it goes to show that the BCPM, as filed in the universal service proceeding, placed way too much facilities. And actually, BellSouth's model now shows that the HAI model, in the universal service proceeding, overstated the amount of equipment that was necessary in the outside plant network.

COMMISSIONER JABER: Mr. Lamoureux, is your microphone on? Staff is telling us they can't hear.

MR. LAMOUREUX: That was an ergonomic failure, not an electronic failure.

BY MR. LAMOUREUX:

Q What is the relationship between the amount of facilities and the amount of cost that come out of a cost model?

A (By Mr. Pitkin) The way investments are developed is taking the amount of facilities, multiplying them by the cost of those facilities that generate total investment. The total investment is then used to determine the rate necessary to recover the investment portion of the total cost.

There's an investment recovery portion, then there's an operating expense portion. To the extent fewer facilities are placed, you're going to have less investment that needs to be recovered, and it's going to

have a direct downward impact on the rates.

Q Talked about source code and, in particular, source code for the cost calculator. Do you have much experience in reviewing cost models, either for USF or for UNE cases?

A I've been doing it for four years now, pretty much full time.

Q In your mind, in that experience, is the source code important to allow a reviewer of the models to identify key assumptions underlying the cost model?

A Yes. Well, you can review source code and follow the logic and see what happens. It's source code the way it's written . It's, essentially, text that -- and some sort of language tells you what's going on, but it jumps all over the place.

And it's often very difficult to see what's going on, unless you can isolate certain portions of that code and test it to see if you take this piece of code, put something in, what comes out. Without the ability to do that, it makes it very difficult to look at specific activities that go on in the model, and it makes it very difficult to do a thorough review.

Q Do you consider source code to be important to be able to trace the sequence of calculations that culminates in the cost studies?

A Absolutely. That's what I was trying to get to is while, in general, you may have an idea of what's going on, without the ability to edit and recompile the source code, it's virtually impossible to determine exactly what impact a set of algorithms is going to have on the model results.

Q Let's change subjects a little bit, move to the question of DLC equipment placement at DLC sites.

The changes that you made, Mr. Pitkin, to the BSTLM, do they in any way render or allow for inconsistent placement of DLC equipment between the remote terminal and the central office?

A No. I used the exact same criteria for the remote terminal and the central office terminal. And the way it works is it brings in a remote terminal at a time and it determines the cost of the remote terminal piece and the central office piece at the same time. So, by using this criteria, it does treat them both the same and makes sure there's a match between the remote terminal piece and the central office piece.

Q Mr. Donovan, you were asked a question by Mr. Ross about proprietary nature of DLC equipment. Given the nature of that equipment, would it be possible, given the proprietary nature, to use equipment from vendor A and equipment from vendor B at the same DLC site?

A (By Mr. Donovan) No. And as I mentioned, in my opening summary, my criticism of the BellSouth model in that regard is they use what I describe as a homogenized high-density and low-density, it's kind of like either putting milk in your coffee or cream, and they use half and half. You really just can't do that.

And the right way that an engineer designs the network is to put the right terminal there. I can understand for modeling purposes why one might be tempted to use half and half, but it really distorts the way the model can price this.

And Mr. Pitkin has been able to create a repair for that. And I fully support that, because it's how an engineer would actually engineer it. It's the most accurate way to do it, and it doesn't distort cost.

Q Could you describe, please, how it is possible to have equipment from vendor A and vendor B, one set at each site, but a combination of the two on the same SONET ring route?

A Yes. I think, I could probably use the diagramed exhibit of West Palm Beach as an example. And I'll go to the easel pad.

The way an engineer would design this network would be to have, in the central office, vendor A equipment and vendor B equipment. This equipment is

connected with fiber patch cords to a fiber patch panel in the central office.

Now, in this particular example, we have three remote sites in which the correct type of remote terminal would be a type A at RT site A and RT site C. This is site A, B, and C on my diagram here, as I'm drawing. It runs counterclockwise with the central office at the top and then counterclockwise, site A, site B, site C.

The correct remote terminal type would be vendor A in location A and C and vendor type B at site B. Now, BellSouth sizes the cable as a -- minimum size is a 12-fiber cable. Well, what's actually needed for a multiplexer in the central office to communicate with these devices is a transmit fiber and a receive fiber.

So, what occurs is two fibers, you have a transmit and a receive. In a SONET configuration, what occurs is that signal is then regenerated by this particular remote terminal site A. And what it did on receive it now drops and adds and transmits to the next site. What it transmitted is just the reverse direction and it uses a receive.

If you notice, I've swung these fibers passed site B, but didn't connect them to site B. What I also have coming out of this patch panel is some more fibers in a 12-fiber cable that would be dedicated -- which would be

dropped off at site B. And then, of course, additional fibers in that 12-fiber cable, we just go on so that an engineer can put in a future remote terminal cabinet.

Normally, you designate fibers in the cable sheath by fiber numbers. And as an engineer, I'll probably designate this as fiber number 1 and fiber number 2. I'd designate this as fiber number 3 and fiber number 4.

Keep in mind, these fibers are in a cable shape that are as thick as my thumb and they're 1/2 an inch in diameter, they're not especially expensive. And the entire point here is that you can't have vendor A equipment talking to vendor B remote. We all agree on that.

Our point is that there's sufficient fiber in this model to allow a vendor A and a vendor B in the central office, because as Mr. Pitkin explained in his direction, he generates central office equipment everytime he generates a remote terminal.

So, when he's got a vendor B remote, he generates a piece of vendor B in the central office, and the same with that, he generates a piece of that. So, that's taking care of the loop costing. There's enough fibers in the cable that make this practical from a technical engineering point of view, and this is exactly

how I would engineer it as an outside plant engineer.

Q Mr. Pitkin, there was a good deal of discussion about inflation. Hopefully, I won't ask a question that necessitates another trip to the easel. Are you recommending that there be no inflation at all in the cost model?

A (By Mr. Pitkin) No, absolutely not. It's necessary to compensate BellSouth for inflation, but the nature of the way these cost models work in treating the cost of capital, the nominal cost of capital, which includes inflation as a direct cost that BellSouth is entitled to recover, they are already recovering for inflation in that nominal cost of capital. And any additional adjustment for inflation is a double counting.

Q So, are the nature of your changes to eliminate the potential of double counting inflation?

A That's exactly right. We are all -- I think, all parties are sponsoring a nominal cost of capital, which includes inflation. So, all I am doing is removing a double count of inflation.

Q Last question deals with the subject of DSO equivalents. There was some discussion from Mr. Ross about the BCPM model being used in Florida, the synthesis model being used in Georgia, and the BSTLM model being used here in Florida.

Does the question of which model is being used for which type of proceeding change the fundamental question of whether you should allocate on a per pair or a DSO-equivalent basis?

A No, it really doesn't. In all of the proceedings, whether directly or indirectly, the models are taking a count for all of the services. That's why you have special access lines included in the synthesis model and the BCPM and the HAI model to capture the economies of scale and scope of those services, so all of the models are including all of that investment.

And similarly, all of the models need to determine how to allocate out that investment. And what we're talking about here is how that investment should be allocated out.

And although, in the HAI model and the BCPM, that is determined by whether you put into the model the number of pairs or the number of DSOs. And this model is determined by what you're using in your allocation method, which is a different kind of input into the model, but fundamentally, they are exact same things.

MR. LAMOUREUX: I have no further questions.

CHAIRMAN DEASON: Exhibits.

MR. ROSS: Mr. Chairman, BellSouth would move Exhibits 126 and 127 into evidence.

CHAIRMAN DEASON: Without objection, --

MR. LAMOUREUX: I'm going to object to 126, the hypothetical. Mr. Pitkin had problems with the assumptions underlying that hypothetical. So, I don't think there is a foundation for that being entered into the record as evidence.

MR. ROSS: Mr. Chairman, I don't think the witness has to agree with the assumptions of a hypothetical before it can become evidence in the record.

CHAIRMAN DEASON: I think that the discussion on the record and the reservations the witness expressed are adequate in that it would be permissible to include Exhibit 126. So, Exhibit 126 and 127 are admitted.

(Exhibits 126 and 127 admitted into the record.)

CHAIRMAN DEASON: Other exhibits?

MR. LAMOUREUX: I think, we need to move 123, 124 and 125.

CHAIRMAN DEASON: Without objection, Exhibits 123, 124 and 125 are admitted.

(Exhibits 123, 124 and 125 admitted into the record.)

CHAIRMAN DEASON: We're going to recess for lunch at this time. We will come back at 1:00.

(Transcript continues in sequence in Volume 15.)

STATE OF FLORIDA

: CERTIFICATE OF REPORTER

COUNTY OF LEON)

I, KORETTA E. STANFORD, RPR, Official Commission Reporter, do hereby certify that the Hearing in Docket No. 990649-TP was heard by the Florida Public Service Commission at the time and place herein stated.

It is further certified that I stenographically reported the said proceedings; that the same has been transcribed under my direct supervision; and that this transcript, consisting of 221 pages, Volume 14 constitutes a true transcription of my notes of said proceedings and the insertion of the prescribed prefiled testimony of the witness(s).

I FURTHER CERTIFY that I am not a relative, employee, attorney or counsel of any of the parties, nor am I a relative or employee of any of the parties' attorneys or counsel connected with the action, nor am I financially interested in the action.

DATED THIS 25th DAY OF SEPTEMBER, 2000.

Koretta E. Stanford

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